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KANSAS STATE AGRICULTURAL COLLEGE BULLETIN

VOL. I June 15, 1917 No. 11

A DESCRIPTIVE ANNOUNCEMENT

OF THE

COURSE IN VETERINARY MEDICINE

1917-1918

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MANHATTAN, KANSAS

PUBLISHED BY THE COLLEGE

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The Kansas State Agricultural College Bulletin is published on the first and fifteenth of each month by the Kansas State Agricultural College, Manhattan, Kansas, to which requests for copies of the publication should be addressed. Entered as second-class matter November 6, 1916, at the post office at Manhattan, Kansas, under the Act of August 24, 1912.

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1917/18 –

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HENRY JACKSON WATERS, B. S. A., LL. D.,
President of the College.

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Dean of the Division of Agriculture; Director of the Agricultural Experiment Station.

*FRANCIS SIEGEL SCHOENLEBER, D. V. S., M. S. A.,
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Instructor in Dairy Husbandry.

E. H. TOOLE,
Instructor in Botany.

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* Resigned March 1, 1917.
† Resigned April 20, 1917.

VETERINARY BUILDING (FRONT VIEW)

GENERAL INFORMATION.

GROUNDS, BUILDINGS, AND EQUIPMENT.

The College campus occupies a commanding and attractive site upon an elevation adjoining the western limits of the city of Manhattan, with electric-car service into town and to the railway stations. The grounds are tastefully laid out according to the designs of a landscape architect, and are extensively planted with a great variety of beautiful and interesting trees, arranged in picturesque groups, masses, and border plantings, varied by banks of shrubbery and interspersed with extensive lawns, gardens, and experimental fields. Broad, well-shaded macadamized avenues lead to all parts of the grounds. Cement walks connect the buildings with one another and with the entrances. Including the campus of 160 acres, the College owns 748 acres of land at Manhattan, valued at $185,000, and rents 522 acres in addition. Outside the campus proper, all of the land is devoted to educational and experimental work in agriculture. Within the College grounds most of the space not occupied by buildings and needed for drives and ornamental plantings is devoted to orchards, forest and fruit nurseries, vineyards, and garden. A number of fields in the northern and western

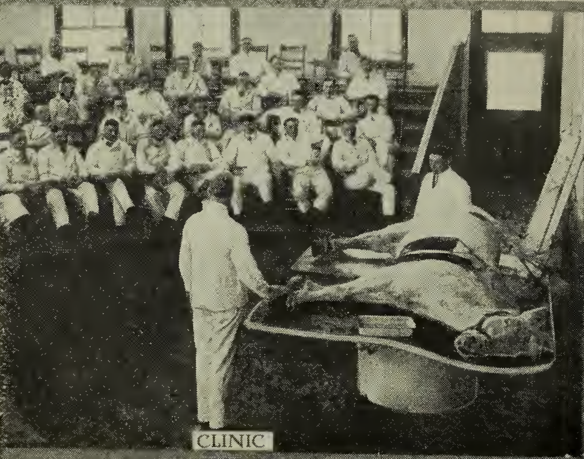
VETERINARY BUILDING (REAR VIEW)

portions of the campus are used for general experimental work by various departments.

The College buildings, twenty-one in number, are harmoniously grouped, and are uniformly constructed of limestone obtained from the College quarries. A central power plant furnishes steam heat and electric light and power to the buildings, and a plant for the manufacture of producer gas supplies some of the laboratories and shops. The College owns and operates its own system of waterworks and is provided with a complete sewerage system.

The Veterinary Department is housed in the Veterinary Building, which was erected at a cost of over $60,000 and is thoroughly equipped throughout. It contains modern classrooms, and its laboratories possess the necessary appliances for illustrating the several subjects required. The surgical amphitheater is an annex to the Veterinary Building, seating over three hundred people, and equipped with every modern appliance for performing before the classes the most delicate operations upon both large and small animals. The hospital has a capacity of about thirty animals and is nearly always filled with patients, which give ample material for study of internal medicine as well. The outclinic furnishes many cases yearly, giving the student opportunity to become familiar with the diseases and their treatment under the guidance of proficient practitioners.

PHYSIOLOGY LABORATORY



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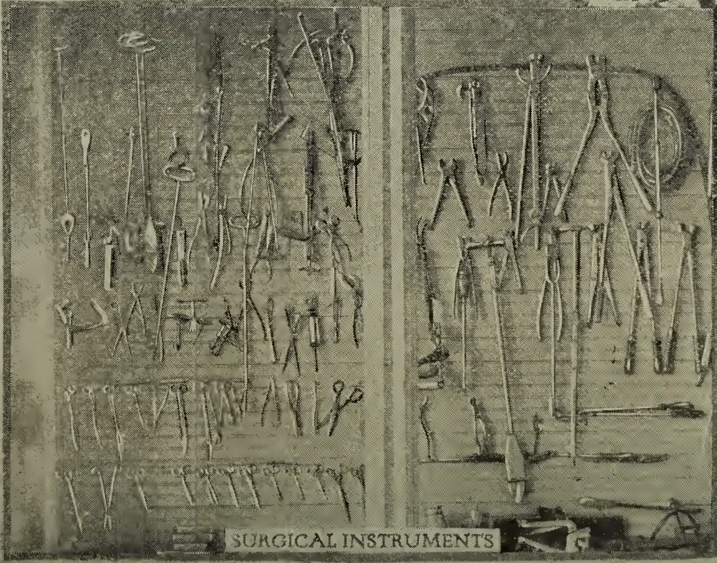

SURGICAL INSTRUMENTS

A POST-MORTEM SCENE

FIELDS OPEN TO VETERINARIANS.

Private Practice. At the present time the national livestock valuation is over five billion dollars. The graduate veterinarian possessing aptitude for livestock work will find many lucrative fields. The income from such a source varies from $1500 to $5000 a year.

The U. S. Army. Veterinarians in the army upon entrance receive the commission and rank of second lieutenant, being eligible to advancement to the commission and rank of major, with the pay and allowances of their rank. Such positions are very desirable, and present opportunities for wide experience in professional work.

U. S. Veterinary Inspector. The Department of Agriculture, through its Bureau of Animal Industry, employs many veterinarians for the inspection of meats and other food products, as field veterinarians in eradicating and controlling animal diseases, as investigators, quarantine officers, etc. Salaries range from $1400 to $3000.

State and Municipal Work. Many cities are adopting rigid milk and meat inspection regulations. This work requires men trained in veterinary pathology, meat inspection, and milk inspection. As state and assistant veterinarians there are many openings in enforcing quarantine laws and controlling contagious diseases of animals.

Experiment Station Veterinarians and College Instructors. Practically all state agricultural colleges and experiment stations employ from one to several veterinarians for carrying on educational and research work. The demand for adequately-trained men has been greater than the supply. Salaries range from $1200 to $3500 a year.

Commercial Work. The advancement made the last few years in veterinary biological products, such as anti-hog-cholera serum, anti-blackleg serum and vaccine, etc., has created an immense field for veterinarians. Many pharmaceutical houses and biological laboratories are demanding competent men trained along these lines at salaries ranging from $1500 to $5000 a year.

REQUIREMENTS FOR ADMISSION.

Persons to be admitted to the freshman class must be high-school graduates, or they must have fifteen units * of high-school work. A person offering fourteen units will be admitted as freshman, but will be conditional in one unit. Such deficiency must be made up the first year that the student is in attendance. If not made up within that time College credits are taken in its place.

DEGREES.

The Department of Veterinary Medicine offers a four-year course (nine months to the year), leading to the degree of doctor of veterinary medicine (D. V. M.).

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* A unit is defined to be the work done in an accredited high school or academy in five recitation periods a week for one school year.

GUERNSEY
HOLSTEIN
A HERD OF ONE BREED OF COLLEGE DAIRY COWS
JERSEY
AYRSHIRE

The United States Department of Agriculture has placed this school in class A, being the highest attainable classification. Graduates are eligible to all state and federal examinations, and to membership in all state, sectional and national veterinary associations.

The College also offers a six-year course, being a combined animal husbandry and veterinary medicine course. At the end of four years the student is eligible to the degree "bachelor of science in agriculture," and the degree of "doctor of veterinary medicine" at the end of two more years.

VETERINARY MEDICAL SOCIETY.

This society was organized by students in the Veterinary Department. Regular meetings are held for the discussion of veterinary subjects. Faculty members and outside veterinarians frequently take part in the program.

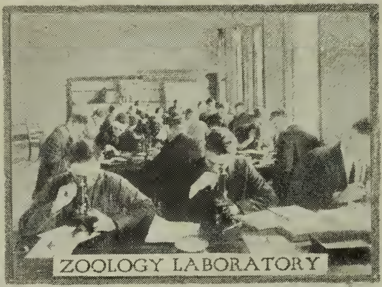
Graduates that have complied with the rules and regulations of the society are presented with its diploma. The annual veterinary banquet is held at the same time.

EXPENSES.

Tuition is free. A matriculation, or entrance, fee of $5 and an incidental fee of $5 a semester and $5 for the Summer Term is charged all students resident in Kansas. For nonresidents a matriculation fee of $10 and an incidental fee of $10 a semester and $10 for the Summer Term are charged. The Eight Weeks' Short Course students are required to pay a fee of $3 and a sick benefit fee of 50 cents. Each student, except as noted in the preceding statement, pays with his incidental fee a sick benefit fee of $1 each semester and $1 for the Summer Term. In return for this he receives the services of the College physicians for any illness contracted while in College. The fee does not include the cost of medicine, surgical operations, reduction of fractures, hospital fees, or the treatment of chronic conditions. As far as possible, and provided the students requesting such services room within the city limits, the College physicians visit in their rooms students who are too ill to go to the physicians' office. Class instruction in music is free; for individual instruction a fee is required. In all laboratories students are required to pay for apparatus broken or lost, and for supplies. For unexcused late registration the student is charged $1. Students, when graduating, pay a commencement fee of $5 to cover the cost of the diploma and other commencement expenses. No other fees are charged.

APPLICATION FOR CATALOGUES.

General information concerning the College or the annual catalogue of the College may be obtained from the President or the Registrar.


ZOOLOGY LABORATORY

MILK INSPECTION

CURRICULUM IN VETERINARY MEDICINE.

The Arabic numeral immediately following the name of a subject indicates the number of credits, while the numerals in parentheses indicate the number of hours a week of recitation and of laboratory, respectively. 5(3-4, 2) indicates that two of the six laboratory hours each week may be used in completing required laboratory exercises outside of the regular laboratory periods.

FRESHMAN.

FIRST SEMESTER.

Subject	Course	Credits
Anatomy I	Vet. 201	6(3-9)
Histology I	Vet. 221	3(1-6)
Chemistry Vet. I	Chem. 105	5(3-4, 2)
General Zoölogy Vet.	Zoöl. 111	3(2-3)
Military Science I	Mil. Tr. 101	1(0-3)
Hygiene and School Problems M	Phys. Tr. 125	R
		18

SECOND SEMESTER.

Subject	Course	Credits
Anatomy II	Vet. 202	7(3-12)
Histology II	Vet. 222	3(1-6)
Chemistry Vet. II	Chem. 106	5(3-4, 2)
Embryology Vet.	Zoöl. 114	2(1-3)
Military Science II	Mil. Tr. 102	1(0-3)
		18

SOPHOMORE.

FIRST SEMESTER.

Subject	Course	Credits
Anatomy III	Vet. 203	5(1-12)
Comparative Physiology I	Vet. 211	5(4-3)
Medical Botany	Bot. 113	2(1-3)
College Rhetoric I	Engl. 101	3(3-0)
Types and Classes of Livestock Vet.	An. Husb. 102	3(1-6)
Military Science III	Mil. Tr. 103	1(0-3)
		19

SECOND SEMESTER.

Subject	Course	Credits
Anatomy IV	Vet. 204	3(1-6)
Comparative Physiology II	Vet. 212	3(2-3)
Pathogenic Bacteriology I	Bac. 111	4(2-6)
Materia Medica I	Vet. 131	2(2-0)
Principles of Feeding	An. Husb. 104	3(3-0)
Principles of Breeding	An. Husb. 106	3(3-0)
Military Science IV	Mil. Tr. 104	1(0-3)
		19

JUNIOR.

FIRST SEMESTER.

Surgery I	Vet. 151	3(3-0)
Diagnosis	Vet. 161	2(2-0)
Materia Medica II	Vet. 132	2(2-0)
Pharmacy	Vet. 134	1(0-3)
Pathology I	Vet. 241	5(4-3)
Pathogenic Bacteriology	Bac. 116	4(2-6)
Clinics I	Vet. 171	3(0-9)
		20

SECOND SEMESTER.

Surgery II	Vet. 152	3(3-0)
Medicine I	Vet. 162	4(4-0)
Horse-shoeing	Vet. 156	1(1-0)
Therapeutics	Vet. 133	3(3-0)
Pathology II	Vet. 242	6(4-6)
Clinics II	Vet. 172	3(0-9)
		20

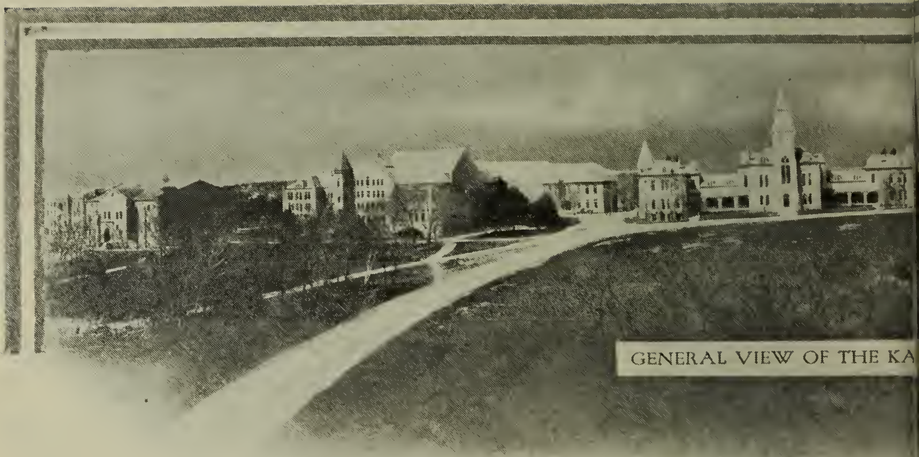
SENIOR.

FIRST SEMESTER.

Surgery III	Vet. 153	3(3-0)
Medicine II	Vet. 163	5(5-0)
Pathology III	Vet. 243	3(2-3)
Meat Inspection	Vet. 246	2(2-0)
Parasitology	Zoöl. 123	2(1-3)
Clinics III	Vet. 173	4(0-12)
		19

SECOND SEMESTER.

Surgery IV	Vet. 154	3(3-0)
Medicine III	Vet. 164	5(5-0)
Ophthalmology	Vet. 165	1(1-0)
Operative Surgery	Vet. 155	1(0-3)
Jurisprudence	Vet. 166	1(1-0)
Obstetrics	Vet. 157	3(3-0)
Dairy Inspection II	Dairy Husb. 118	1(0-3)
Clinics IV	Vet. 174	4(0-12)
		19



GENERAL VIEW OF THE KA

VETERINARY MEDICINE.

ANATOMY.

Taught during the freshman and sophomore years. The knowledge of anatomy is a very important part of the education of the veterinarian. It is absolutely essential that one has a knowledge of anatomy before he is able to perform surgical operations intelligently. A knowledge of anatomy is also of much advantage in the judging of the horse of conformation and soundness. The work consists of dissection and lectures. The horse is studied in detail, and as often as necessary comparisons are made with other animals.

Unsoundnesses and defects are pointed out on the living animal and these are confirmed and discussed when the subject is dissected.

Abundance of material is always available and the student is encouraged to do any extra dissection that he may wish.

HISTOLOGY.

The object of the courses in histology is to teach the students the microscopical structure of all the normal tissues of the animal body. This gives the student a foundation to work upon in his study of pathology, which courses treat with the microscopical structure of diseased and abnormal body tissues and organs.

The courses in histology consist of lectures and laboratory work, the lectures covering the work done in the laboratory. In these courses the

student obtains a thorough knowledge of the use of the microscope, the structure of animal tissues, and some of the methods of preparing animal tissue so as to study them under the microscope.

CHEMISTRY.

The courses in chemistry are designed to give the student a knowledge of the theories of chemistry, the elements, inorganic compounds and organic compounds. Emphasis is laid upon substances which are used in medicine including a study of their physiological properties.

ZOÖLOGY.

This work deals with the smaller forms of the animal kingdom, giving attention to their relations to each other, and to man. A comparative study of the systems of organs is taken up in a few selected types.

EMBRYOLOGY.

This takes up a brief consideration of the origin of germ cells, fertilization, establishment of relations between the uterus and embryo, the development of membranes and the nutrition of the fetus in mammals.

COMPARATIVE PHYSIOLOGY.

This subject is taught during the sophomore year.

The functions and uses of the organs of the body are thoroughly discussed during the lectures and these discussions are supplemented by work in the laboratory.

SHORTHORNS

A GRADE CHAMPION

MATCHLESS DALE
(A COLLEGE CHAMPION)

COLLEGE BEEF CATTLE

Besides the changes and variations that may take place normally in the body, changes due to the action of common drugs, used for the treatment of diseases, will also be demonstrated.

The Department of Physiology is well equipped with up-to-date approved apparatus.

MEDICAL BOTANY.

This course consists of a series of lectures and laboratory work on the principal plants of the pharmacopœia. Especial attention is given to poisonous plants and their identification.

ENGLISH.

Along with professional training the student is required to take a course in English. This consists of a thorough review of the essentials of English and practice in theme writing. The aim of this work is to develop the student's ability to tell accurately what he knows, what he sees, and enables him to relate the subject of English to the professional work which he expects to follow in after life.

LIVESTOCK.

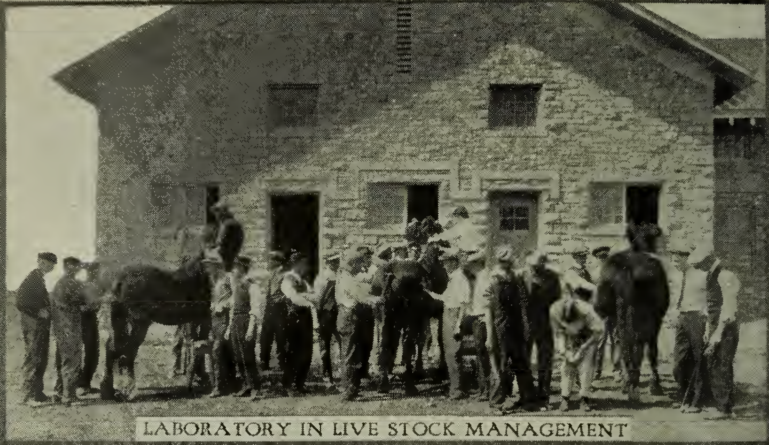
Courses in "Types and Classes of Livestock," "Principles of Feeding" and "Principles of Breeding" are given throughout the sophomore and junior years. No veterinary school can give such a thorough course in these highly important subjects as the Agricultural College. Here are available for classroom and laboratory instruction a large number of prize-winning dairy and beef cattle, horses, hogs, and sheep. All breeds are represented. Daily handling of these animals is of inestimable value to the future veterinarian. Nothing impresses an owner of livestock, meaning the veterinarian's clients, as favorably as an intelligent understanding of this highly important branch.

BACTERIOLOGY.

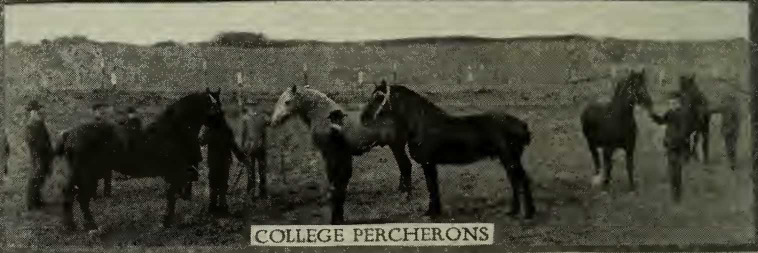
The introductory course in bacteriology consists of lectures, demonstrations and recitations covering the fundamental principles of the science as applied to veterinary medicine. Later in the course a detailed study is taken up of the pathogenic bacteria, and especially those that are related to the specific infectious diseases of animals. In a well-equipped laboratory the student learns the microscopical and cultural characteristics of pathogenic microörganism. He studies methods of laboratory animal inoculation, autopsy, and diagnosis.

MATERIA MEDICA.

A course devoted to the discussion of the materials used in the treatment of disease, with special reference to the origin of such agents, their physical properties and the official preparations derived from them. The poisonous properties of many drugs are taken up in detail, as well as the doses that may be administered for the cure of disease. Taught during the second semester, sophomore year, and the first semester, Junior year.



LABORATORY IN LIVE STOCK MANAGEMENT



COLLEGE PERCHERONS

COLLEGE DRAFT HORSES

MILITARY SCIENCE.

All able-bodied students enrolling in the Veterinary Department are required to take military science and tactics for two academic years, and then taking a course as prescribed for infantry troops. For this work the student must secure a military uniform such as all the cadets wear. After completing two years of drill the student may elect a course in advanced military science, at which time he may be made a student cadet officer.

SURGERY.

During the junior and senior years a thorough, practical course in surgery is given. The various surgical conditions affecting domesticated animals are discussed so as to familiarize the student with all the details. This classroom work is supplemented during the senior year by a course in surgical exercises, performed upon anæsthetized horses purchased for this purpose, and in addition many patients are brought to the hospital for surgical treatment.

MEDICINE.

This subject is taught throughout the junior and senior years. The course commences with diagnosis, in which the student is familiarized with the principles of and the correct method of conducting a veterinary clinical diagnosis. The aids to such a diagnosis, such as diagnostic inoculations, animal inoculations, bacteriological and physiological tests, are fully explained and demonstrated.

The course in diagnosis is followed by a discussion of the noninfectious diseases of domesticated animals. Each disease is taken up separately and thoroughly discussed. This course is greatly strengthened by the large number of medical cases presented at the veterinary hospital for treatment.

The course in medicine is finally completed by a consideration of the infectious and contagious diseases, their prevention, treatment, and sanitary measures for their eradication.

Taken as a whole the course in medicine is broad and comprehensive and especially adapted to middle west conditions.

PHARMACY.

The practicing veterinarian is called upon many times to prepare and compound his own drugs; in addition it is highly essential that he be familiar with general pharmaceutical procedures. The course in pharmacy fills this need, the student being instructed in class and laboratory regarding the various pharmaceutical processes. At the veterinary hospital all drugs used are prepared and compounded by students under the guidance of a pharmacist.

PATHOLOGY.

In these courses the students study the microscopical structure of diseased and abnormal animal tissues. The work is covered in lecture and recitations and also in the laboratory. Besides studying the diseased

ANATOMY LABORATORY

ANATOMY LECTURE

BACTERIOLOGY LABORATORY

structure of tissues under the microscope, the student learns to collect, prepare, section, and stain material for use under the microscope. He learns the best methods for holding *post-mortem* examination and for making laboratory diagnoses. Material from the *post mortem* of animals and material sent to the College from over the state furnish an ample supply of diseased tissues for the student to study. Advanced courses are offered which treat with pathological technique and laboratory diagnosis.

SERUM THERAPY.

This course gives the student the manufacture, standardization, preparation for the market and the uses of vaccines, bacterins, antitoxins, and other biological products. The theories of immunity are studied, and in the laboratory experiments are carried on showing the constitution and mode of action of antibodies. Actual work is done in the laboratory on the production and standardization of biological products such as diphtheria and tetanus antitoxin, bacterins, etc. This is one of the fields that is opening up more and more as time goes on, and gives the veterinarian a big opportunity and a large field in which to work. It requires men that have had training along the lines of serum therapy.

HORSESHOEING.

Many lamenesses and irregularities in the horse's gait may be improved or corrected by correct application of the principles underlying horseshoeing. The student has access to a large number of specimens owned by the department which assist greatly in classroom and laboratory work.

THERAPEUTICS.

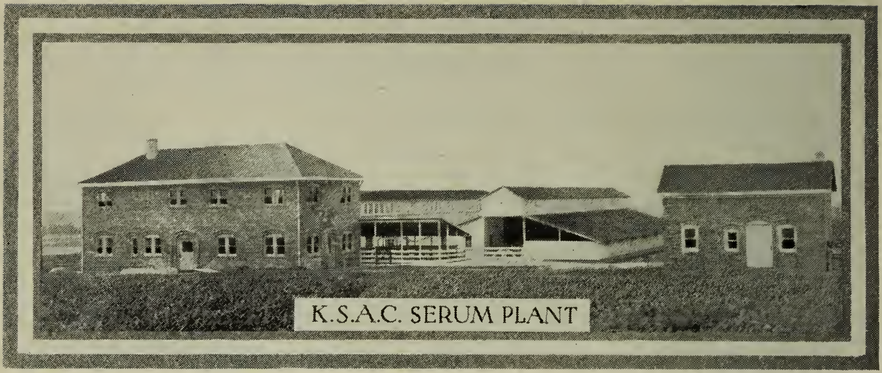
A continuation of the course in materia medica, but devoted to the action of drugs on the various parts of the body, their use in the treatment of diseases. The symptoms of poisoning by various agents and the treatment thereof is also described. The action of many drugs is shown on experimental animals. Second semester, junior year.

MEAT INSPECTION.

The course in meat inspection is designed to prepare the student for national, state or local sanitary work. He studies the traffic and transportation of animals, their inspection before death, their slaughter, and their inspection after slaughter. He learns the laws and regulations regarding disposal of condemned carcasses, preparations and methods for preserving, and adulterations. A study of sanitary laws and regulations is taken up, along with all other matters concerning healthful meat production.

PARASITOLOGY.

This course takes up a study of the external and internal parasites of domestic animals and man, treating with their life histories, economical importance, etc.



K.S.A.C. SERUM PLANT

OPHTHALMOLOGY.

Diseases of the eyes are a frequent cause of loss to owners of livestock. This subject is of such importance that a separate course is devoted to it. The physical appearance of a normal eye and the deviations therefrom, the diseases, contagious and noncontagious, the injuries and defects are all discussed. The use of the ophthalmoscope and other diagnostic agents are in frequent use at the veterinary clinic. The subject is taught throughout the second semester, senior year.

JURISPRUDENCE.

The enforcement of sanitary laws and regulations, both state and federal, is left largely to the veterinarian; he is called upon to inspect livestock for interstate and foreign shipment, demanding familiarity with quarantine laws. His rights and privileges, and also those of his clients, methods of collecting accounts, etc., are all discussed. Taught during the second semester, senior year.

OBSTETRICS.

This is that branch of surgery dealing with pregnancy, normal and abnormal parturition, diseases incidental to pregnancy, and diseases of the new-born. The classroom work is supplemented by a laboratory course in which obstetrical models and phantoms are employed. The surrounding extensive livestock territory contributes many cases for practical demonstrations under actual conditions. Taught during the second semester, senior year.

DAIRY INSPECTION.

The veterinarian's field is a broad one; many cities are employing veterinarians as guardians of their milk supply. The course in dairy inspection comprises the testing of dairy products, the inspection and scoring of milk depots, and the testing for adulterations in dairy products.

CLINICS.

A free clinic which affords an abundance of material is conducted. All species of domesticated animals are presented for treatment. These patients are assigned in regular order to the senior students for diagnosis and treatment; clinic sheets are provided, on which are recorded the history, symptoms, pulse, temperature, respiration, diagnosis, prognosis, treatment, and the unsoundness, defects or blemishes of the animal. The clinician in charge discusses all the abnormal conditions present in the patient, thus assisting the student to develop his powers of observation. The junior students assist the senior students, and in addition are required to master, by practical experience, the restraint of animals, bandaging, etc. The compounding of prescriptions, the preparations of antiseptics and other medicinal agents is taken in charge by the junior students.

By these means the student becomes thoroughly practical and of immediate value to the community in which he locates.

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KANSAS STATE AGRICULTURAL COLLEGE BULLETIN

VOL. II JUNE 1, 1918 No. 8

DESCRIPTIVE ANNOUNCEMENT

OF THE

CURRICULUM IN
VETERINARY MEDICINE

1918-'19

UNIVERSITY OF ILLINOIS
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MANHATTAN, KANSAS

PUBLISHED BY THE COLLEGE

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Officers of Instruction and Administration.

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President of the College.

JULIUS TERRASS WILLARD, Sc. D.,
Vice President of the College.

LELAND EVERETT CALL, M. S.,
Acting Dean of the Division of Agriculture; Acting Director of the Agricultural Experiment Station.

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Professor of Military Science and Tactics; Commandant of Cadets.

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Associate Professor of Dairy Husbandry.

JAMES EDWARD ACKERT, Ph. D.,
Assistant Professor of Zoology; Parasitologist in Agricultural Experiment Station.

LESTER D. HAMMOND, Ph. D.,
Assistant Professor of Chemistry.

LEO EDWARD MELCHERS, M. S.,
Assistant Professor of Botany.

CLAUDE M. VESTAL, B. S. A.,
Assistant Professor of Animal Husbandry.

WILLIAM ROY DAVIS, B. S. in Dairy Husbandry,
Assistant in Dairy Husbandry.

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*Vacant.
†Absent on military duty.

VETERINARY BUILDING (FRONT VIEW)

General Information.

Grounds, Buildings, and Equipment.

The College campus occupies a commanding and attractive site upon an elevation adjoining the western limits of the city of Manhattan, with electric-car service into town and to the railway stations. The grounds are tastefully laid out according to the designs of a landscape architect, and are extensively planted with a great variety of beautiful and interesting trees, arranged in picturesque groups, masses, and border plantings, varied by banks of shrubbery and interspersed with extensive lawns, gardens, and experimental fields. Broad, well-shaded macadamized avenues lead to all parts of the grounds. Cement walks connect the buildings with one another and with the entrances. Including the campus of 160 acres, the College owns 748 acres of land at Manhattan, valued at $185,000, and rents 522 acres in addition. Outside the campus proper, all the land is devoted to educational and experimental work in agriculture. Within the College grounds, most of the space not occupied by buildings and needed for drives and ornamental plantings is devoted to orchards, forest and fruit nurseries, vineyards, and garden. A number of fields in the northern and western

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portions of the campus are used for general experimental work by various departments.

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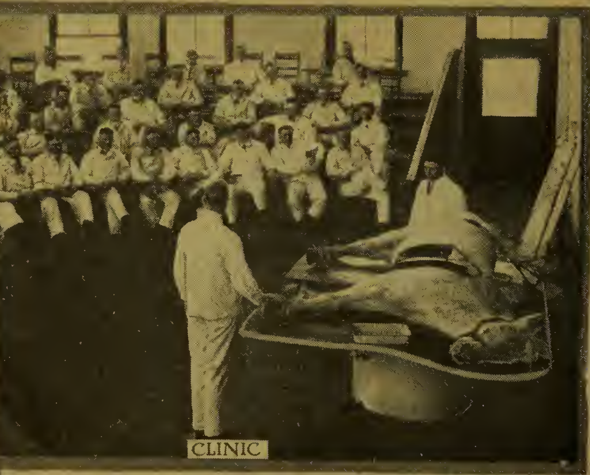
PHYSIOLOGY LABORATORY



CLINIC

SURGICAL INSTRUMENTS

A POST-MORTEM SCENE

Fields Open to Veterinarians.

Private Practice. At the present time the national livestock valuation is over five billion dollars. The graduate veterinarian possessing aptitude for livestock work will find many lucrative fields. The income from such a source varies from $1,500 to $5,000 a year.

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Experiment Station Veterinarians and College Instructors. Practically all state agricultural colleges and experiment stations employ from one to several veterinarians for carrying on educational and research work. The demand for adequately trained men has been greater than the supply. Salaries range from $1,200 to $3,500 a year.

Commercial Work. The advancement made the last few years in veterinary biological products, such as anti-hog-cholera serum, anti-blackleg serum and vaccine, etc., has created an immense field for veterinarians. Many pharmaceutical houses and biological laboratories are demanding competent men trained along these lines at salaries ranging from $1,500 to $5,000 a year.

Requirements for Admission.

Persons to be admitted to the freshman class must be high-school graduates, or they must have fifteen units* of high-school work. A person offering fourteen units will be admitted as freshman, but will be conditioned in one unit. Such deficiency must be made up the first year that the student is in attendance. If not made up within that time College credits are taken in its place.

Degrees.

The Department of Veterinary Medicine offers a four-year course (nine months to the year), leading to the degree of doctor of veterinary medicine (D. V. M.).

The United States Department of Agriculture has placed this school in class A, being the highest attainable classification. Graduates are eligible

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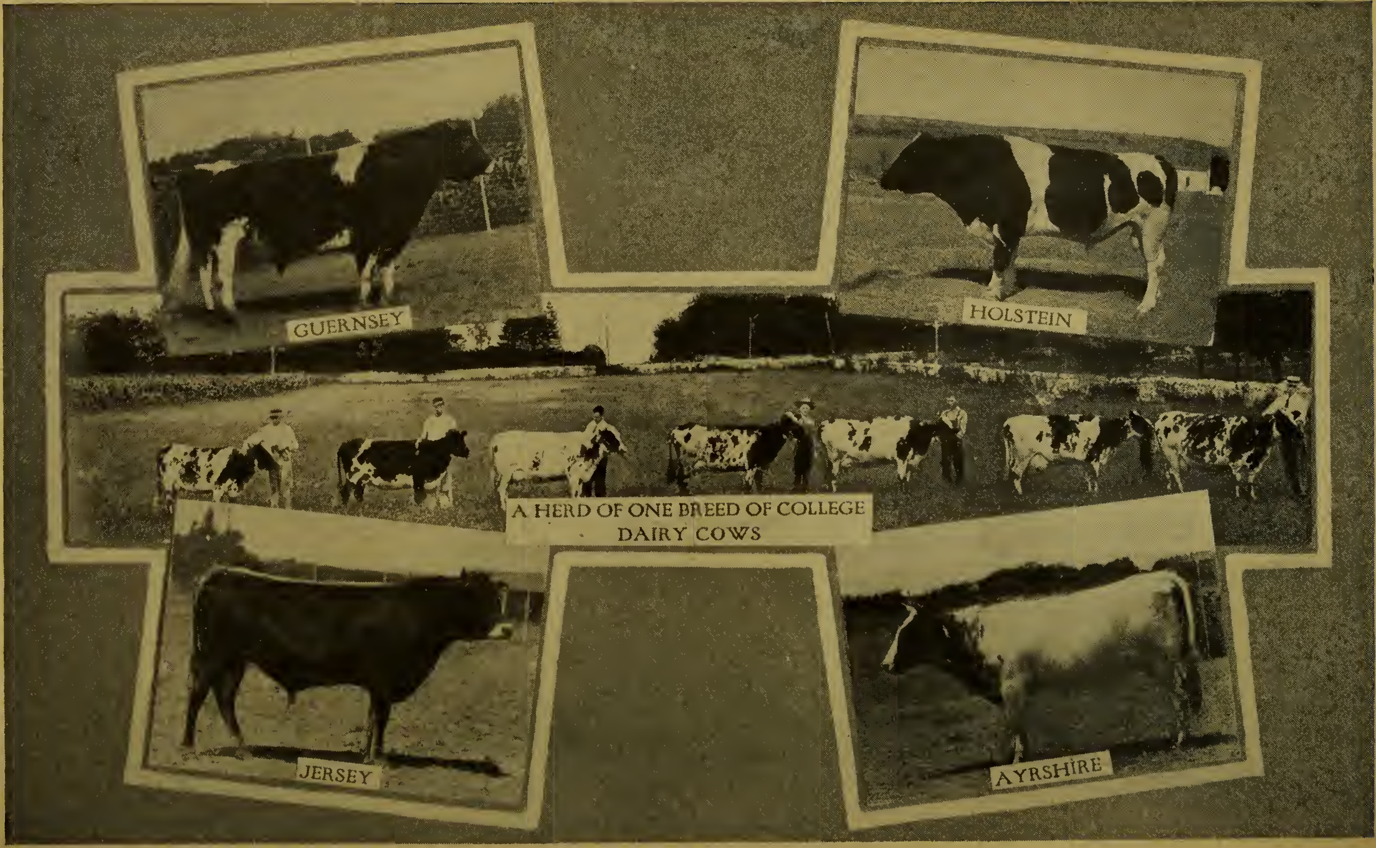
* A unit is defined to be the work done in an accredited high school or academy in five recitation periods a week for one school year.



A HERD OF ONE BREED OF COLLEGE DAIRY COWS to all state and federal examinations, and to membership in all state, sectional and national veterinary associations.

The College also offers a six-year course, being a combined animal husbandry and veterinary medicine course. At the end of four years the student is eligible to the degree of "bachelor of science in agriculture," and the degree of "doctor of veterinary medicine" at the end of two more years.

Veterinary Medical Society.

This society was organized by students in the Veterinary Department. Regular meetings are held for the discussion of veterinary subjects. Faculty members and outside veterinarians frequently take part in the program.

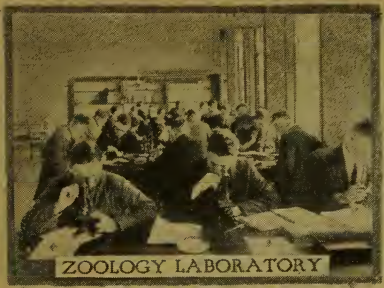
Graduates that have complied with the rules and regulations of the society are presented with its diploma. The annual veterinary banquet is held at the same time.

Expenses.

Tuition is free. A matriculation, or entrance, fee of $5 and an incidental fee of $5 a semester and $5 for the Summer Term is charged all students resident in Kansas. For nonresidents a matriculation fee of $10 and an incidental fee of $10 a semester and $10 for the Summer Term are charged. The Eight Weeks' Short Course students are required to pay a fee of $3 and a sick benefit fee of 50 cents. Each student, except as noted in the preceding statement, pays with his incidental fee a sick benefit fee of $1 each semester and $1 for the Summer Term. In return for this he receives the services of the College physicians for any illness contracted while in College. The fee does not include the cost of medicine, surgical operations, reduction of fractures, hospital fees, or the treatment of chronic conditions. As far as possible, and provided the students requesting such services room within the city limits, the College physicians visit in their rooms students who are too ill to go to the physicians' office. Class instruction in music is free; for individual instruction a fee is required. In all laboratories students are required to pay for apparatus broken or lost, and for supplies. For unexcused late registration the student is charged $1. Students, when graduating, pay a commencement fee of $5 to cover the cost of the diploma and other commencement expenses. No other fees are charged.

Application for Catalogues.

General information concerning the College or the annual catalogue of the College may be obtained from the President or the Registrar.



ZOOLOGY LABORATORY

MILK INSPECTION

Curriculum in Veterinary Medicine.

The Arabic numeral immediately following the name of a subject indicates the number of credits, while the numerals in parentheses indicate the number of hours a week of recitation and of laboratory, respectively. 5(3-4, 2) indicates that two of the six laboratory hours each week may be used in completing required laboratory exercises outside of the regular laboratory periods.

Freshman.

FIRST SEMESTER.

Anatomy I	Vet. 201	6(3-9)
Histology I	Vet. 221	3(1-6)
Chemistry Vet. I	Chem. 105	5(3-4, 2)
General Zoology Vet.	Zool. 111	3(2-3)
Military Science I	Mil. Tr. 101	1(0-3)
Phys. Ed. M-I	Phys. Ed. 103	(0-2)
		18

SECOND SEMESTER.

Anatomy II	Vet. 202	7(3-12)
Histology II	Vet. 222	3(1-6)
Chemistry Vet. II	Chem. 106	5(3-4, 2)
Embryology Vet.	Zool. 114	2(1-3)
Military Science II	Mil. Tr. 102	1(0-3)
Phys. Ed. M-II	Phys. Ed. 104	(0-2)
		18

Sophomore.

FIRST SEMESTER.

Anatomy III	Vet. 203	5(1-12)
Comparative Physiology I	Vet. 211	5(4-3)
Medical Botany	Bot. 113	2(1-3)
College Rhetoric I	Engl. 101	3(3-0)
Types and Classes of Livestock Vet.	An. Husb. 102	3(1-6)
Military Science III	Mil. Tr. 103	1(0-3)
		19

SECOND SEMESTER.

Anatomy IV	Vet. 204	3(1-6)
Comparative Physiology II	Vet. 212	3(2-3)
Pathogenic Bacteriology I	Bac. 111	4(2-6)
Materia Medica I	Vet. 131	2(2-0)
Principles of Feeding	An. Husb. 104	3(3-0)
Principles of Breeding	An. Husb. 106	3(3-0)
Military Science IV	Mil. Tr. 104	1(0-3)
		19

Junior.

FIRST SEMESTER.

Surgery I Vet. 151	3(3-0)
Diagnosis Vet. 161	2(2-0)
Materia Medica II Vet. 132	2(2-0)
Pharmacy Vet. 134	1(0-3)
Pathology I Vet. 241	5(4-3)
Pathogenic Bacteriology Bac. 116	4(2-6)
Clinics I Vet. 171	3(0-9)
	20

SECOND SEMESTER.

Surgery II Vet. 152	3(3-0)
Medicine I Vet. 162	4(4-0)
Horseshoeing Vet. 156	1(1-0)
Therapeutics Vet. 133	3(3-0)
Pathology II Vet. 242	6(4-6)
Clinics II Vet. 172	3(0-9)
	20

Senior.

FIRST SEMESTER.

Surgery III Vet. 153	3(3-0)
Medicine II Vet. 163	5(5-0)
Pathology III Vet. 243	3(2-3)
Meat Inspection Vet. 246	2(2-0)
Parasitology Zool. 123	2(1-3)
Clinics III Vet. 173	4(0-12)
	19

SECOND SEMESTER.

Surgery IV Vet. 154	3(3-0)
Medicine III Vet. 164	5(5-0)
Ophthalmology Vet. 165	1(1-0)
Operative Surgery Vet. 155	1(0-3)
Jurisprudence Vet. 166	1(1-0)
Obstetrics Vet. 157	3(3-0)
Dairy Inspection II Dairy Husb. 118	1(0-3)
Clinics IV Vet. 174	4(0-12)
	19

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GENERAL VIEW OF THE

Veterinary Medicine.

Anatomy.

Taught during the freshman and sophomore years. The knowledge of anatomy is a very important part of the education of the veterinarian. It is absolutely essential that one have a knowledge of anatomy before he is able to perform surgical operations intelligently. A knowledge of anatomy is also of much advantage in the judging of the horse for conformation and soundness. The work consists of dissection and lectures. The horse is studied in detail, and as often as necessary comparisons are made with other animals.

Unsoundnesses and defects are pointed out on the living animal, and these are confirmed and discussed when the subject is dissected.

Abundance of material is always available, and the student is encouraged to do any extra dissection that he may wish.

Histology.

The object of the courses in histology is to teach the students the microscopical structure of all the normal tissues of the animal body. This gives the student a foundation to work upon in his study of pathology, which courses treat with the microscopical structure of diseased and abnormal body tissues and organs.

The courses in histology consist of lectures and laboratory work, the lectures covering the work done in the laboratory. In these courses the eature Film Co.

student obtains a thorough knowledge of the use of the microscope, the structure of animal tissues, and some of the methods of preparing animal tissues so as to study them under the microscope.

Chemistry.

The courses in chemistry are designed to give the student a knowledge of the theories of chemistry, the elements, inorganic compounds, and organic compounds. Emphasis is laid upon substances which are used in medicine, including a study of their physiological properties.

Zoology.

This work deals with the smaller forms of the animal kingdom, giving attention to their relations to each other, and to man. A comparative study of the systems of organs is taken up in a few selected types.

Embryology.

This takes up a brief consideration of the origin of germ cells, fertilization, establishment of relations between the uterus and embryo, the development of membranes, and the nutrition of the fetus in mammals.

Comparative Physiology.

This subject is taught during the sophomore year.

The functions and uses of the organs of the body are thoroughly discussed during the lectures, and these discussions are supplemented by work in the laboratory.

SHORTHORNS

A GRADE CHAMPION

MATCHLESS DALE
(A COLLEGE CHAMPION)

COLLEGE BEEF CATTLE

LABORATORY IN LIVE STOCK MANAGEMENT

COLLEGE PERCHERONS

COLLEGE DRAFT HORSES

Besides the changes and variations that may take place normally in the body, changes due to the action of common drugs, used for the treatment of diseases, will also be demonstrated.

The Department of Physiology is well equipped with up-to-date approved apparatus.

Medical Botany.

This course consists of a series of lectures and laboratory work on the principal plants of the pharmacopœia. Especial attention is given to poisonous plants and their identification.

English.

Along with professional training the student is required to take a course in English. This consists of a thorough review of the essentials of English and practice in theme writing. The aim of this work is to develop the student's ability to tell accurately what he knows, what he sees, and enables him to relate the subject of English to the professional work he expects to follow in after life.

Livestock.

Courses in "Types and Classes of Livestock," "Principles of Feeding," and "Principles of Breeding" are given throughout the sophomore and junior years. No veterinary school can give such a thorough course in these highly important subjects as the Agricultural College. Here are available for classroom and laboratory instruction a large number of prize-winning dairy and beef cattle, horses, hogs, and sheep. All breeds are represented. Daily handling of these animals is of inestimable value to the future veterinarian. Nothing impresses an owner of livestock, meaning the veterinarian's clients, as favorably as an intelligent understanding of this highly important branch.

Bacteriology.

The introductory course in bacteriology consists of lectures, demonstrations and recitations covering the fundamental principles of the science as applied to veterinary medicine. Later in the course a detailed study is taken up of the pathogenic bacteria, and especially those that are related to the specific infectious diseases of animals. In a well-equipped laboratory the student learns the microscopical and cultural characteristics of pathogenic microörganism. He studies methods of laboratory animal inoculation, autopsy, and diagnosis.

Materia Medica.

A course devoted to the discussion of the materials used in the treatment of disease, with special reference to the origin of such agents, their physical properties, and the official preparations derived from them. The poisonous properties of many drugs are taken up in detail, as well as the doses that may be administered for the cure of disease. Taught during the second semester, sophomore year, and the first semester, junior year.

Military Science.

All able-bodied students enrolling in the Veterinary Department are required to take military science and tactics for two academic years, and then take a course as prescribed for infantry troops. For this work the student must secure a military uniform such as all the cadets wear. After completing two years of drill the student may elect a course in advanced military science, at which time he may be made a student cadet officer.

Surgery.

During the junior and senior years a thorough, practical course in surgery is given. The various surgical conditions affecting domesticated animals are discussed so as to familiarize the student with all the details. This classroom work is supplemented during the senior year by a course in surgical exercises, performed upon anæsthetized horses purchased for this purpose, and in addition many patients are brought to the hospital for surgical treatment.

Medicine.

This subject is taught throughout the junior and senior years. The course commences with diagnosis, in which the student is familiarized with the principles of and the correct method of conducting a veterinary clinical diagnosis. The aids to such a diagnosis, such as diagnostic inoculations, animal inoculations, bacteriological and physiological tests, are fully explained and demonstrated.

The course in diagnosis is followed by a discussion of the noninfectious diseases of domesticated animals. Each disease is taken up separately and thoroughly discussed. This course is greatly strengthened by the large number of medical cases presented at the veterinary hospital for treatment.

The course in medicine is finally completed by a consideration of the infectious and contagious diseases, their prevention, treatment, and sanitary measures for their eradication.

Taken as a whole, the course in medicine is broad and comprehensive and especially adapted to middle west conditions.

Pharmacy.

The practicing veterinarian is called upon many times to prepare and compound his own drugs; in addition, it is highly essential that he be familiar with general pharmaceutical procedures. The course in pharmacy fills this need, the student being instructed in class and laboratory regarding the various pharmaceutical processes. At the veterinary hospital all drugs used are prepared and compounded by students under the guidance of a pharmacist.

Pathology.

In these courses the students study the microscopical structure of diseased and abnormal animal tissues. The work is covered in lectures and recitations, and also in the laboratory. Besides studying the diseased structure of tissues under the microscope, the student learns to collect, prepare, section, and stain material for use under the microscope. He learns the best methods of holding *post-mortem* examinations and making laboratory

ANATOMY LABORATORY

ANATOMY LECTURE

BACTERIOLOGY LABORATORY

diagnoses. Material from the *post-mortem* of animals and material sent to the College from over the state furnish an ample supply of diseased tissues for the student to study. Advanced courses are offered which treat with pathological technique and laboratory diagnosis.

Serum Therapy.

This course gives the student the manufacture, standardization, preparation for the market, and the uses of vaccines, bacterins, antitoxins, and other biological products. The theories of immunity are studied, and in the laboratory experiments are carried on showing the constitution and mode of action of antibodies. Actual work is done in the laboratory on the production and standardization of biological products such as diphtheria and tetanus antitoxins, bacterins, etc. This is one of the fields that is opening up more and more as time goes on, and gives the veterinarian a big opportunity and a large field in which to work. It requires men that have had training along the lines of serum therapy.

Horseshoeing.

Many lamenesses and irregularities in the horse's gait may be improved or corrected by correct application of the principles underlying horseshoeing. The student has access to a large number of specimens owned by the department which assist greatly in classroom and laboratory work.

Therapeutics.

A continuation of the course in materia medica, but devoted to the action of drugs on the various parts of the body and their use in the treatment of diseases. The symptoms of poisoning by various agents and the treatment thereof are also described. The action of many drugs is shown on experimental animals. Second semester, junior year.

Meat Inspection.

The course in meat inspection is designed to prepare the student for national, state or local sanitary work. He studies the traffic and transportation of animals, their inspection before death, their slaughter, and their inspection after slaughter. He learns the laws and regulations regarding disposal of condemned carcasses, preparations and methods for preserving, and adulterations. A study of sanitary laws and regulations is taken up, along with all other matters concerning healthful meat production.

Parasitology.

This course takes up a study of the external and internal parasites of domestic animals and man, treating with their life histories, economical importance, etc.

Ophthalmology.

Diseases of the eyes are a frequent cause of loss to owners of livestock. This subject is of such importance that a separate course is devoted to it. The physical appearance of a normal eye and the deviations therefrom, the diseases, contagious and noncontagious, the injuries and defects, are all dis-

K.S.A.C. SERUM PLANT

cussed. The use of the ophthalmoscope and other diagnostic agents are in frequent use at the veterinary clinic. The subject is taught throughout the second semester, senior year.

Jurisprudence.

The enforcement of sanitary laws and regulations, both state and federal, is left largely to the veterinarian; he is called upon to inspect livestock for interstate and foreign shipment, demanding familiarity with quarantine laws. His rights and privileges, and also those of his clients, methods of collecting accounts, etc., are all discussed. Taught during the second semester, senior year.

Obstetrics.

This is the branch of surgery dealing with pregnancy, normal and abnormal parturition, diseases incidental to pregnancy, and diseases of the new-born. The classroom work is supplemented by a laboratory course in which obstetrical models and phantoms are employed. The surrounding extensive livestock territory contributes many cases for practical demonstrations under actual conditions. Taught during the second semester, senior year.

Dairy Inspection.

The veterinarian's field is a broad one; many cities are employing veterinarians as guardians of their milk supply. The course in dairy inspection comprises the testing of dairy products, the inspection and scoring of milk depots, and the testing for adulterations in dairy products.

Clinics.

A free clinic which affords an abundance of material is conducted. All species of domesticated animals are presented for treatment. These patients are assigned in regular order to the senior students for diagnosis and treatment; clinic sheets are provided, on which are recorded the history, symptoms, pulse, temperature, respiration, diagnosis, prognosis, treatment, and the unsoundness, defects or blemishes of the animal. The clinician in charge discusses all the abnormal conditions present in the patient, thus assisting the student to develop his powers of observation. The junior students assist the senior students, and in addition are required to master, by practical experience, the restraint of animals, bandaging, etc. The compounding of prescriptions, the preparations of antiseptics and other medical agents is taken in charge by the junior students.

By these means the student becomes thoroughly practical and of immediate value to the community in which he locates.

KANSAS STATE PRINTING PLANT
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KANSAS STATE AGRICULTURAL COLLEGE BULLETIN

VOL. III JANUARY 1, 1919 NUMBER 1

Descriptive Announcement of the Curriculum in

VETERINARY MEDICINE

Kansas State Agricultural College

1919-20

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UNIVERSITY OF ILLINOIS

MANHATTAN, KANSAS
PUBLISHED BY THE COLLEGE

The Kansas State Agricultural College Bulletin is published on the first and fifteenth of each month by the Kansas State Agricultural College, Manhattan, Kansas, to which requests for copies of the publication should be addressed. Entered as second-class matter November 6, 1916, at the post office at Manhattan, Kansas, under the Act of August 24, 1912.

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Vice President of the College.

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Dean of the Division of Agriculture; Director of the Agricultural Experiment Station.

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Head of the Department of Veterinary Medicine; Professor of Surgery.

LEONARD WHITTLESEY GOSS, D. V. M.
Professor of Pathology.

————————————
Professor of Medicine.

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Associate Professor of Anatomy and Physiology.

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Assistant Professor in Veterinary Extension.

CHARLES WESLEY HOBBS, D. V. S.
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JOHN B. GINGERY, D. V. M.
Instructor in Veterinary Medicine.

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Assistant in Anatomy and Physiology.

CLAYTON BRONAUGH GRIFFITHS, D. V. M.
Assistant in Veterinary Medicine.

LYMAN RAY VAWTER, D. V. M.
Assistant in Pathology.

NATHAN D. HARWOOD, D. V. M.
Assistant in Veterinary Medicine.

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LELAND DAVID BUSHNELL, M. S.
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JOHN ROBERTSON MACARTHUR, PH. D.
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Assistant Professor of Dairy Inspection.

EDWARD WEST, A. B.
Instructor in Chemistry.

ODESSA DOW, B. S.
Instructor in Chemistry.

NORA E. BALBEY, A. B.
Instructor in Botany.

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*Vacant.

VETERINARY BUILDING (FRONT VIEW)

GENERAL INFORMATION

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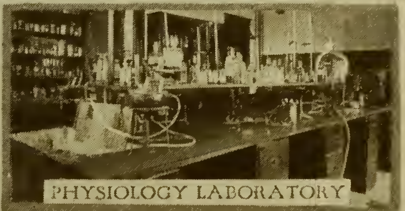

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REQUIREMENTS FOR ADMISSION

Persons to be admitted to the freshman class must be high-school graduates, or they must have fifteen units* of high-school work. A person offering fourteen units will be admitted as freshman, but will be conditioned in one unit. Such deficiency must be made up the first year that the student is in attendance. If not made up within that time College credits are taken in its place.

DEGREES

The Deparment of Veterinary Medicine offers a four-year course (nine months to the year) leading to the degree of doctor of veterinary medicine (D. V. M.).

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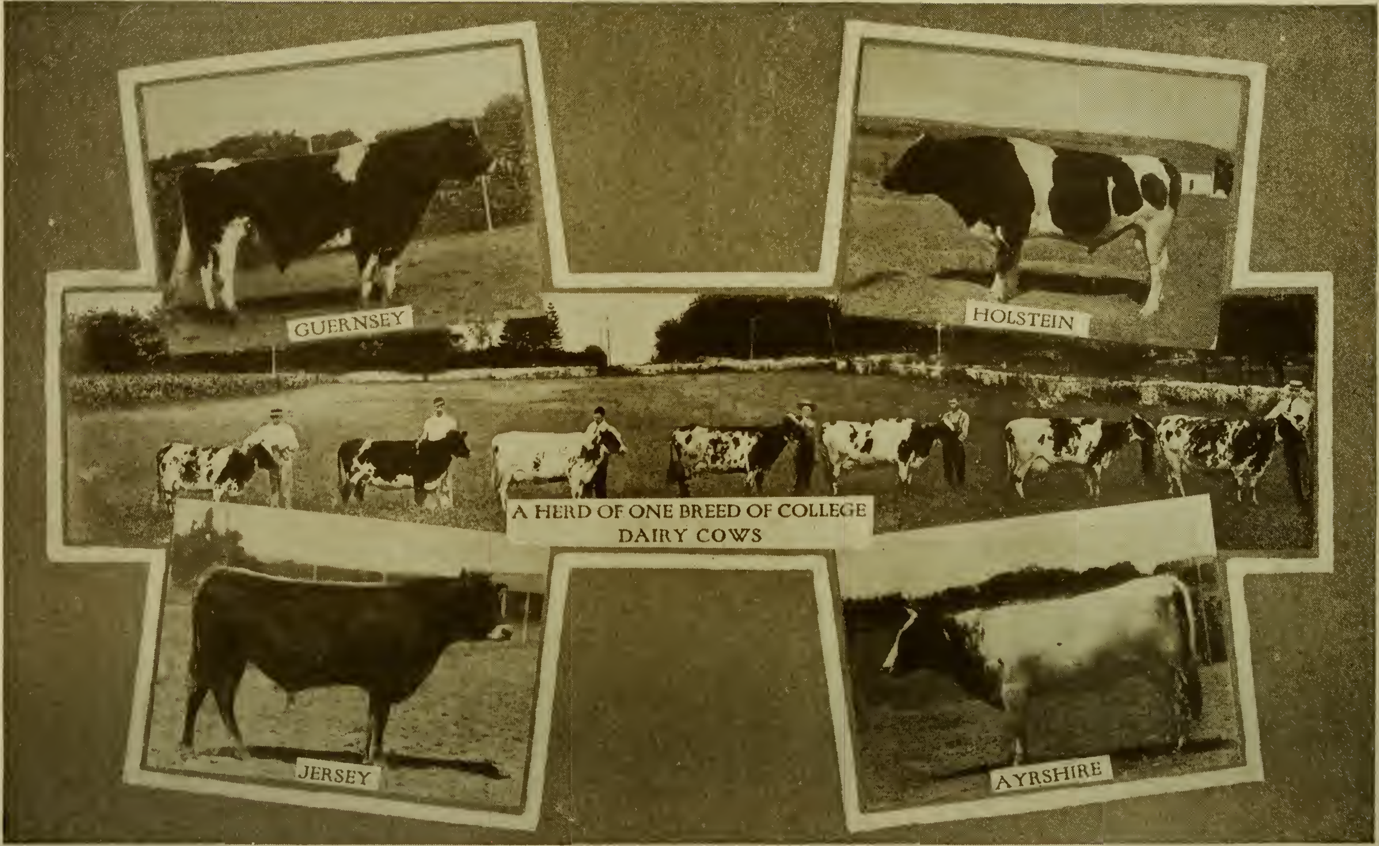
*A unit is defined to be the work done in an accredited high school or academy in five recitation periods a week for one school year.


GUERNSEY
HOLSTEIN
A HERD OF ONE BREED OF COLLEGE DAIRY COWS
JERSEY
AYRSHIRE

The United States Department of Agriculture has placed this school in class A, being the highest attainable classification. Graduates are eligible to all state and federal examinations, and to membership in all state, sectional, and national veterinary associations.

The College also offers a six-year course, being a combined animal husbandry and veterinary medicine course. At the end of four years the student is eligible to the degree of "bachelor of science in agriculture," and the degree of "doctor of veterinary medicine" at the end of two more years.

VETERINARY MEDICAL SOCIETY

This society was organized by students in the Veterinary Department. Regular meetings are held for the discussion of veterinary subjects. Faculty members and outside veterinarians frequently take part in the program.

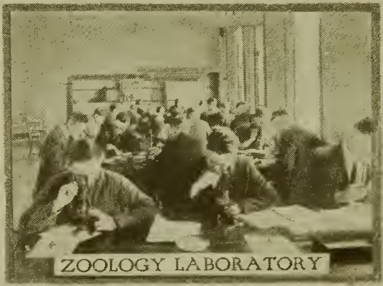
Graduates that have complied with the rules and regulations of the society are presented with its diploma. The annual veterinary banquet is held at the same time.

EXPENSES

Tuition is free. A matriculation, or entrance, fee of $5 and an incidental fee of $5 a semester and $5 for the Summer Term is charged all students resident in Kansas. For nonresidents a matriculation fee of $10 and an incidental fee of $10 a semester and $10 for the Summer Term are charged. The Eight Weeks' Short Course students are required to pay a fee of $3 and a sick benefit fee of 50 cents. Each student, except as noted in the preceding statement, pays with his incidental fee a sick benefit fee of $1 each semester and $1 for the Summer Term. In return for this he receives the services of the College physicians for any illness contracted while in College. The fee does not include the cost of medicine, surgical operations, reduction of fractures, hospital fees, or the treatment of chronic conditions. As far as possible, and provided the students requesting such services room within the city limits, the College physicians visit in their rooms students who are too ill to go to the physicians' office. Class instruction in music is free; for individual instruction a fee is required. In all laboratories students are required to pay for apparatus broken or lost, and for supplies. For unexcused late registration the student is charged $1. Students, when graduating, pay a commencement fee of $5 to cover the cost of the diploma and other commencement expenses. No other fees are charged.

APPLICATION FOR CATALOGUES

General information concerning the College or the annual catalogue of the College may be obtained from the President or the Registrar.


ZOOLOGY LABORATORY

MILK INSPECTION

CURRICULUM IN VETERINARY MEDICINE

The arabic numeral immediately following the name of a subject indicates the number of credits, while the numerals in parentheses indicate the number of hours a week of recitation and of laboratory, respectively. 5(3-4, 2) indicates that two of the six laboratory hours each week may be used in completing required laboratory exercises outside of the regular laboratory periods.

FRESHMAN

FIRST SEMESTER		SECOND SEMESTER	
Anatomy I Vet. 201	6(3-9)	Anatomy II Vet. 202	7(3-12)
Histology I Vet. 221	3(1-6)	Histology II Vet. 222	3(1-6)
Chemistry Vet. I Chem. 105	5(3-4, 2)	Chemistry Vet. II Chem. 106	5(3-4, 2)
General Zoölogy Vet. Zoöl. 111	3(2-3)	Embryology Vet. Zoöl. 114	2(1-3)
Military Science I Mil. Tr. 101	1(0-3)	Military Science II Mil. Tr. 102	1(0-3)
Phys. Ed. M-I Phys. Ed. 103	(0-2)	Phys. Ed. M-II Phys. Ed. 104	(0-2)
	18		18

SOPHOMORE

FIRST SEMESTER		SECOND SEMESTER	
Anatomy III Vet. 203	5(1-12)	Anatomy IV Vet. 204	3(1-6)
Comparative Physiology I Vet. 211	5(4-3)	Comparative Physiology II Vet. 212	3(2-3)
Medical Botany Bot. 113	2(1-3)	Pathogenic Bacteriology I Bact. 111	4(2-6)
College Rhetoric I Engl. 101	3(3-0)	Materia Medica I Vet. 131	2(2-0)
Mkt. Grades and Cl. of Livestk. Vet. An. Husb. 102	3(1-6)	Principles of Feeding An. Husb. 104	3(3-0)
Military Science III Mil. Tr. 103	1(0-3)	Genetics An. Husb. 106	3(3-0)
	19	Military Science IV Mil. Tr. 104	1(0-3)
			19

JUNIOR

FIRST SEMESTER

Surgery I	Vet. 151	3(3-0)
Diagnosis	Vet. 161	2(2-0)
Materia Medica II	Vet. 132	2(2-0)
Pharmacy	Vet. 134	1(0-3)
Pathology I	Vet. 241	5(4-3)
Pathogenic Bacteriology	Bac. 116	4(2-6)
Clinics I	Vet. 171	3(0-9)
		20

SECOND SEMESTER

Surgery II	Vet. 152	3(3-0)
Medicine I	Vet. 162	4(4-0)
Horseshoeing	Vet. 156	1(1-0)
Therapeutics	Vet. 133	3(3-0)
Pathology II	Vet. 242	6(4-6)
Clinics II	Vet. 172	3(0-9)
		20

SENIOR

FIRST SEMESTER

Surgery III	Vet. 153	3(3-0)
Medicine II	Vet. 163	5(5-0)
Pathology III	Vet. 243	3(2-3)
Meat Inspection	Vet. 246	2(2-0)
Parasitology	Zoöl. 123	2(1-3)
Clinics III	Vet, 173	4(0-12)
		19

SECOND SEMESTER

Surgery IV	Vet. 154	3(3-0)
Medicine III	Vet. 164	5(5-0)
Ophthalmology	Vet. 165	1(1-0)
Operative Surgery	Vet. 155	1(0-3)
Jurisprudence	Vet. 166	1(1-0)
Obstetrics	Vet. 157	3(3-0)
Dairy Inspection II	Dairy Husb. 118	1(0-3)
Clinics IV	Vet. 174	4(0-12)
		19

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GENERAL VIEW OF TH

VETERINARY MEDICINE

ANATOMY

Taught during the freshman and sophomore years. The knowledge of anatomy is a very important part of the education of the veterinarian. It is absolutely essential that one have a knowledge of anatomy before he is able to perform surgical operations intelligently. A knowledge of anatomy is also of much advantage in the judging of the horse for conformation and soundness. The work consists of dissection and lectures. The horse is studied in detail, and as often as necessary comparisons are made with other animals.

Unsoundness and defects are pointed out on the living animal, and these are confirmed and discussed when the subject is dissected.

Abundance of material is always available, and the student is encouraged to do any extra dissection that he may wish.

HISTOLOGY

The object of the courses in histology is to teach the students the microscopical structure of all the normal tissues of the animal body. This gives the student a foundation to work upon in his study of pathology, ture Film Co.

which courses treat with the microscopical structure of diseased and abnormal body tissues and organs.

The courses in histology consist of lectures and laboratory work, the lectures covering the work done in the laboratory. In these courses the student obtains a thorough knowledge of the use of the microscope, the structure of animal tissues, and some of the methods of preparing animal tissues so as to study them under the microscope.

CHEMISTRY

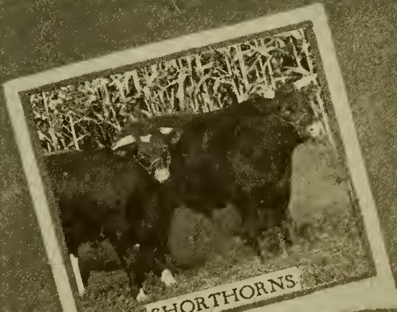
The courses in chemistry are designed to give the student a knowledge of the theories of chemistry, the elements, inorganic compounds, and organic compounds. Emphasis is laid upon substances which are used in medicine, including a study of their physiological properties.

ZOOLOGY

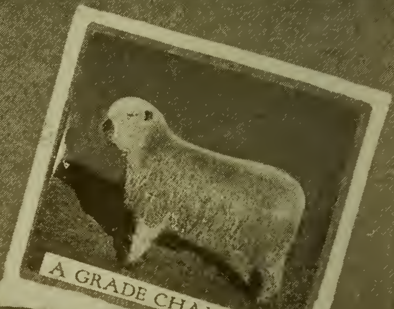
This work deals with the smaller forms of the animal kingdom, giving attention to their relations to each other, and to man. A comparative study of the systems of organs is taken up in a few selected types.

EMBRYOLOGY

This takes up a brief consideration of the origin of germ cells, fertilization, establishment of relations between the uterus and embryo, the development of membranes and the nutrition of the fetus in mammals.



SHORTHORNS



A GRADE CHAMPION

MATCHLESS DALE
(A COLLEGE CHAMPION)

COLLEGE BEEF CATTLE

LABORATORY IN LIVE STOCK MANAGEMENT

COLLEGE PERCHERONS

COLLEGE DRAFT HORSES

COMPARATIVE PHYSIOLOGY

This subject is taught during the sophomore year.

The functions and uses of the organs of the body are thoroughly discussed during the lectures, and these discussions are supplemented by work in the laboratory.

Besides the changes and variations that may take place normally in the body, changes due to the action of common drugs, used for the treatment of diseases, will also be demonstrated.

The Department of Physiology is well equipped with up-to-date approved apparatus.

MEDICAL BOTANY

This course consists of a series of lectures and laboratory work on the principal plants of the pharmacopoeia. Especial attention is given to poisonous plants and their identification.

ENGLISH

Along with professional training the student is required to take a course in English. This consists of a thorough review of the essentials of English and practice in theme writing. The aim of this work is to develop the student's ability to tell accurately what he knows, what he sees, and enable him to relate the subject of English to the professional work he expects to follow in after life.

LIVESTOCK

Courses in "Market Grades and Classes of Livestock," "Principles of Feeding," and "Genetics" are given throughout the sophomore and junior years. No veterinary school can give such a thorough course in these highly important subjects as the Agricultural College. Here are available for classroom and laboratory instruction a large number of prize-winning dairy and beef cattle, horses, hogs, and sheep. All breeds are represented. Daily handling of these animals is of inestimable value to the future veterinarian. Nothing impresses an owner of livestock, meaning the veterinarian's clients, as favorably as an intelligent understanding of this highly important branch.

BACTERIOLOGY

The introductory course in bacteriology consists of lectures, demonstrations and recitations covering the fundamental principles of the science as applied to veterinary medicine. Later in the course a detailed study is taken up of the pathogenic bacteria, and especially those that are related to the specific infectious diseases of animals. In a well-equipped laboratory the student learns the microscopical and cultural characteristics of pathogenic microorganism. He studies methods of laboratory animal inoculation, autopsy, and diagnosis.

MATERIA MEDICA

A course devoted to the discussion of the materials used in the treatment of disease, with special reference to the origin of such agents, their physical properties, and the official preparations derived from them. The poisonous properties of many drugs are taken up in detail, as well as the doses that may be administered for the cure of disease. Taught during the second semester, sophomore year, and the first semester, junior year.

MILITARY SCIENCE

All able-bodied students enrolling in the Veterinary Department are required to take military science and tactics for two academic years, and then take a course as prescribed for infantry troops. For this work the student must secure a military uniform such as all the cadets wear. After completing two years of drill the student may elect a course in advanced military science, at which time he may be made a student cadet officer.

SURGERY

During the junior and senior years a thorough, practical course in surgery is given. The various surgical conditions affecting domesticated animals are discussed so as to familiarize the student with all the details. This classroom work is supplemented during the senior year by a course in surgical exercises, performed upon anaesthetized horses purchased for this purpose, and in addition many patients are brought to the hospital for surgical treatment.

MEDICINE

This subject is taught throughout the junior and senior years. The course commences with diagnosis, in which the student is familiarized with the principles of and the correct method of conducting a veterinary clinical diagnosis. The aids to such a diagnosis, such as diagnostic inoculations, animal inoculations, bacteriological and physiological tests, are fully explained and demonstrated.

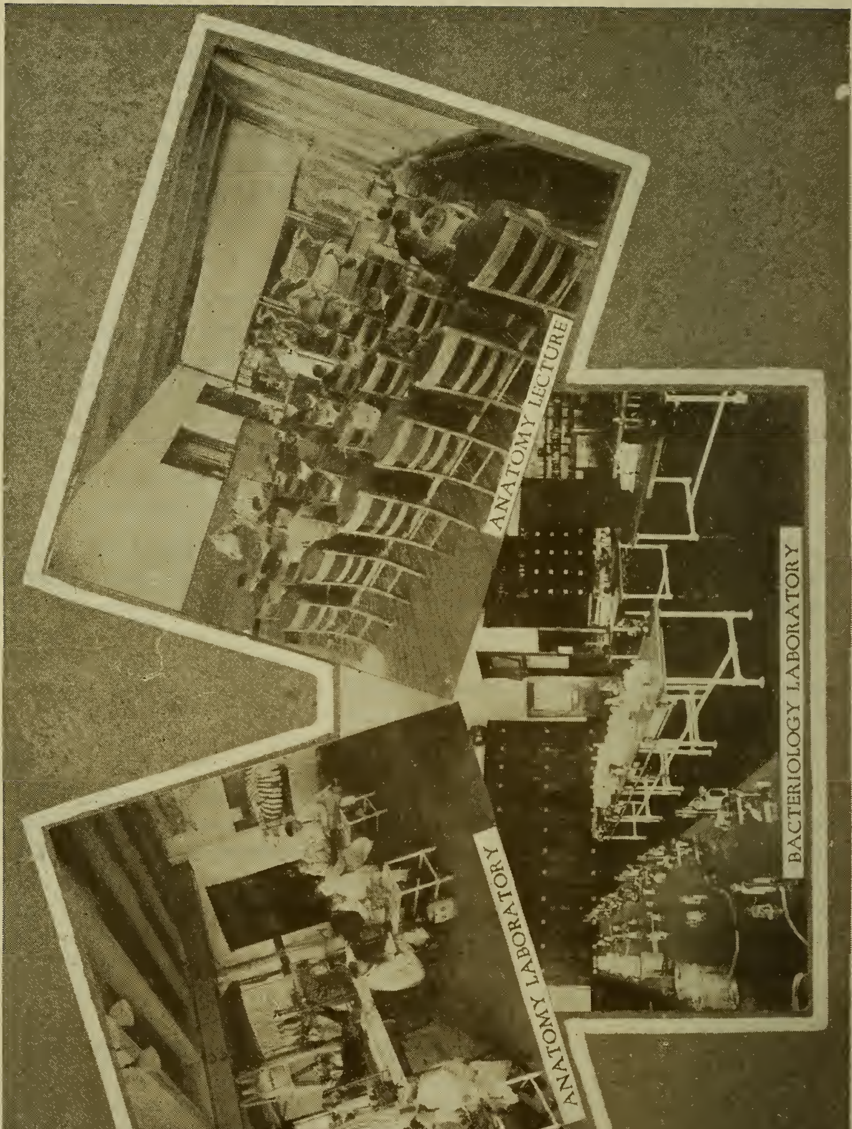
The course in diagnosis is followed by a discussion of the noninfectious diseases of domesticated animals. Each disease is taken up separately and thoroughly discussed. This course is greatly strengthened by the large number of medical cases presented at the veterinary hospital for treatment.

The course in medicine is finally completed by a consideration of the infectious and contagious diseases, their prevention, treatment, and sanitary measures for their eradication.

Taken as a whole, the course in medicine is broad and comprehensive and especially adapted to middle west conditions.

PHARMACY

The practicing veterinarian is called upon many times to prepare and compound his own drugs; in addition, it is highly essential that he


ANATOMY LECTURE
BACTERIOLOGY LABORATORY
ANATOMY LABORATORY

be familiar with general pharmaceutical procedures. The course in pharmacy fills this need, the student being instructed in class and laboratory regarding the various pharmaceutical processes. At the veterinary hospital all drugs used are prepared and compounded by students under the guidance of a pharmacist.

PATHOLOGY

In these courses the students study the microscopical structure of diseased and abnormal animal tissues. The work is covered in lectures and recitations, and also in the laboratory. Besides studying the diseased structure of tissues under the microscope, the student learns to collect, prepare, section, and stain material for use under the microscope. He learns the best methods of holding **post-mortem** examinations and making laboratory diagnoses. Material from the **post-mortem** of animals and material sent to the College from over the state furnish an ample supply of diseased tissues for the student to study. Advanced courses are offered which treat with pathological technique and laboratory diagnosis.

SERUM THERAPY

This course gives the student the manufacture, standardization, preparation for the market, and the uses of vaccines, bacterins, antitoxins, and other biological products. The theories of immunity are studied, and in the laboratory experiments are carried on showing the constitution and mode of action of antibodies. Actual work is done in the laboratory on the production and standardization of biological products such as diphtheria and tetanus antitoxins, bacterins, etc. This is one of the fields that is opening up more and more as time goes on, and gives the veterinarian a big opportunity and a large field in which to work. It requires men that have had training along the lines of serum therapy.

HORSESHOEING

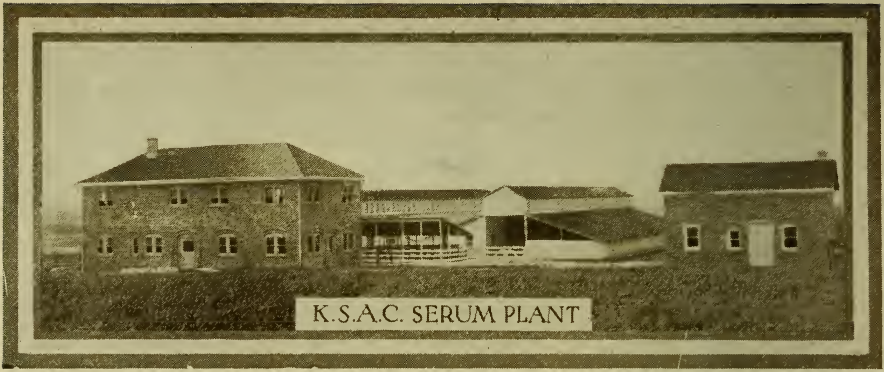
Many lamenesses and irregularities in the horse's gait may be improved or corrected by correct application of the principles underlying horseshoeing. The student has access to a large number of specimens owned by the department which assist greatly in classroom and laboratory work.

THERAPEUTICS

A continuation of the course in materia medica, but devoted to the action of drugs on the various parts of the body and their use in the treatment of diseases. The symptoms of poisoning by various agents and the treatment thereof are also described. The action of many drugs is shown on experimental animals. Second semester, junior year.

MEAT INSPECTION

The course in meat inspection is designed to prepare the student for national, state or local sanitary work. He studies the traffic and transportation of animals, their inspection before death, their slaughter,



K.S.A.C. SERUM PLANT

for preserving, and adulterations. A study of sanitary laws and regula- and their inspection after slaughter. He learns the laws and regulations regarding disposal of condemned carcasses, preparations and methods tions is taken up, along with all other matters concerning healthful meat production.

PARASITOLOGY

This course takes up a study of the external and internal parasites of domestic animals and man, treating with their life histories, economical importance, etc.

OPHTHALMOLOGY

Diseases of the eyes are a frequent cause of loss to owners of livestock. This subject is of such importance that a separate course is devoted to it. The physical appearance of a normal eye and the deviations therefrom, the diseases, contagious and noncontagious, the injuries and defects, are all discussed. The ophthalmoscope and other diagnostic agents are in frequent use at the veterinary clinic. The subject is taught throughout the second semester, senior year.

JURISPRUDENCE

The enforcement of sanitary laws and regulations, both state and federal, is left largely to the veterinarian; he is called upon to inspect livestock for interstate and foreign shipment, demanding familiarity with quarantine laws. His rights and privileges, and also those of his clients, methods of collecting accounts, etc., are all discussed. Taught during the second semester, senior year.

OBSTETRICS

This is the branch of surgery dealing with pregnancy, normal and abnormal parturition, diseases incidental to pregnancy, and diseases of the new-born. The classroom work is supplemented by a laboratory course in which obstetrical models and phantoms are employed. The surrounding extensive livestock territory contributes many cases for practical demonstrations under actual conditions. Taught during the second semester, senior year.

DAIRY INSPECTION

The veterinarian's field is a broad one; many cities are employing veterinarians as guardians of their milk supply. The course in dairy inspection comprises the testing of dairy products, the inspection and scoring of milk depots, and the testing for adulterations in dairy products.

CLINICS

A free clinic which affords an abundance of material is conducted. All species of domesticated animals are presented for treatment. These patients are assigned in regular order to the senior students for diagnosis and treatment; clinic sheets are provided, on which are recorded the history, symptoms, pulse, temperature, respiration, diagnosis, prognosis, treatment, and the unsoundness, defects or blemishes of the animal. The clinician in charge discusses all the abnormal conditions present in the patient, thus assisting the student to develop his powers of observation. The junior students assist the senior students, and in addition are required to master, by practical experience, the restraint of animals, bandaging, etc. The compounding of prescriptions, the preparations of antiseptics and other medical agents is taken in charge by the junior students.

By these means the student becomes thoroughly practical and of immediate value to the community in which he locates.

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KANSAS STATE AGRICULTURAL COLLEGE BULLETIN

VOL. IV APRIL 1, 1920 NUMBER 4

Descriptive Announcement of the Curriculum in

VETERINARY MEDICINE

Kansas State Agricultural College

1920-21

MANHATTAN, KANSAS
PUBLISHED BY THE COLLEGE

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President of the College.
s Terrass Willard, Sc. D.,
Vice President of the College.
h R. Dykstra, D. V. M.
Dean Division of Veterinary Medicine.
Phillips,
Clerk and Stenographer.

Department of Anatomy and Physiology

es Henry Burt, D. V. M.
Professor.
iam M. McLeod, D. V. M.
Instructor.

Department of Surgery and Medicine

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Professor.
E. Muldoon, D. V. M., M. A.
Associate Professor.
in Jacob Frick, D. V. M.
Instructor.

Department of Pathology

ert F. Lienhardt, V. M. D.
Assistant Professor.
ph P. Scott, B. Sc., D. V. M.
Instructor.
an Ray Vawter, D. V. M.
Instructor.
les Howard Kitselman, V. M. D.
Assistant.

Department of Vaccine Laboratories

les Wesley Hobbs, D. V. S.
Superintendent.
ph P. Scott, B. Sc., D. V. M.
Instructor.
an D. Harwood, D. V. M.
Assistant.

Associate Faculty

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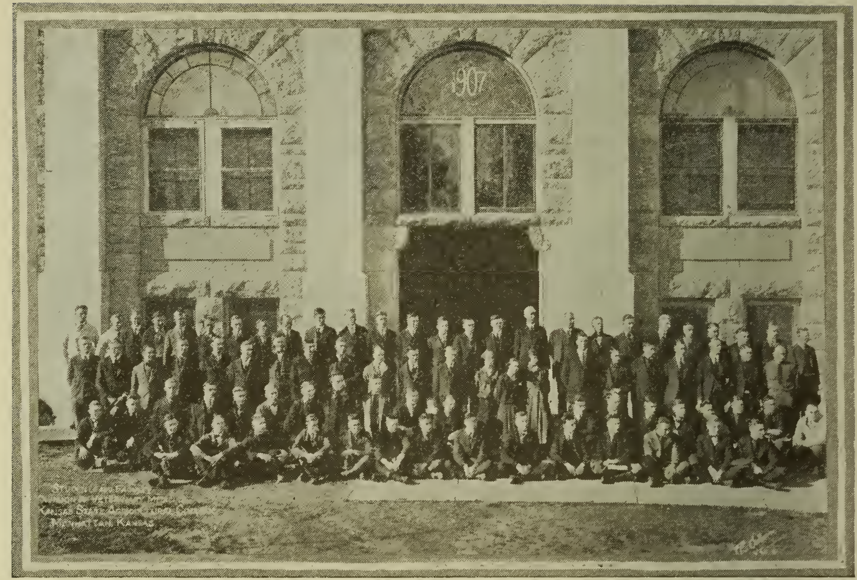
Professor of Animal Husbandry.
F. Ferrin, B. S.
Associate Professor of Animal Husbandry.
an L. Ibsen, B. S., M. S., Ph. D.
Assistant Professor of Animal Husbandry.
ton C. Zimmerman, B. S., M. S.
Assistant in Animal Husbandry.

James Edward Fitch, B. S.,
Professor of Dairy Husbandry.
Harry W. Cave, M. S.
Assistant Professor in Dairy Husbandry.
Leland David Bushnell, M. S.
Professor of Bacteriology.
F. R. Beaudette, D. V. M.
Instructor in Bacteriology.
James Edward Ackert, Ph. D.
Professor of Zoology.
Frederick L. Hisaw, A. B., B. S., A. M.
Assistant Professor of Zoology.
Leo Edward Melchers, M. S.
Professor of Botany.
Frank Cabel Gates, Ph. D.
Assistant Professor of Botany.
James William Searson, A. M.
Professor of English.
Robert W. Conover, A. M.
Associate Professor of English.
Odis H. Burns, A. B.
Associate Professor of English.
Frederick B. Terrell, Lieut. Col. (Infantry U. S. A.)
Professor of Military Science and Tactics
Commandant of Cadets.
Zora Goodwin Clevenger,
Professor of Physical Education and
director of Athletics.

Grounds, Buildings and Equipment

The College campus occupies a commanding and attractive site upon an elevation adjoining the western limits of the city of Manhattan, with electric-car service into town and to the railway stations. The grounds are tastefully laid out according to the designs of a landscape architect, and are extensively planted with a great variety of beautiful and interesting trees, arranged in picturesque groups, masses, and border planting, varied by banks of shrubbery and interspersed with extensive lawns, gardens, and experimental fields. Broad, well-shaded macadamized avenues lead to all parts of the grounds. Cement walks connect the buildings with one another and with the entrances. Including the campus of 160 acres, the College owns 1,136 acres of land at Manhattan, valued at $340,600. Outside the campus proper, all of the land is devoted to educational and experimental work in agriculture. Within the College grounds, most of the space not occupied by buildings and needed for drives and ornamental plantings is devoted to orchards, forest, and fruit nurseries, vineyards, and gardens. A number of fields in the northen and western portions of the campus are used for general experimental work by various departments.

The College buildings, twenty-one in number, are harmoniously grouped, and are uniformly constructed of limestone obtained from the College quarries. A central power plant furnishes steam heat and electric light and power to the buildings, and a plant for the manufacture of producer gas supplies some of the laboratories and shops. The College owns and operates its own system of waterworks and is provided with a complete sewerage system.



The Division of Veterinary Medicine is housed in the Veterinary Building, which was erected at a cost of over $60,000 and is thoroughly equipped throughout. It contains modern classrooms, and its laboratories possess the necessary appliances for illustrating the several subjects required. The surgical amphitheater is an annex to the Veterinary Building, seating over three hundred people, and equipped with every modern appliance for performing before the classes the most delicate operations upon both large and small animals. The hospital has a capacity of about thirty animals and is nearly always filled with patients, which give ample material for study of internal medicine as well. The outclinic furnishes many cases yearly, giving the student opportunity to become familiar with diseases and their treatment under the guidance of proficient practitioners.

Fields Open to Veterinarians

Private Practice. At the present time the national livestock valuation is over five billion dollars. The graduate veterinarian possessing aptitude for livestock work will find many lucrative fields. The income from such a source varies from $1,500 to $5,000 a year.

The U. S. Army. Veterinarians in the army upon entrance receive the commission and rank of second lieutenant, being eligible to advancement to the commission and rank of major, with the pay and allowances of their rank. Such positions are very desirable, and present opportunities for wide experience in professional work.

U. S. Veterinary Inspection. The Department of Agriculture, through its Bureau of Animal Industry, employs many veterinarians for the inspection of meats and other food products, as field veterinarians in eradicating and controlling animal diseases, as investigators, quarantine officers, etc. Salaries range from $1,500 to $3,000.

State and Municipal Work. Many cities are adopting rigid milk and

meat inspection regulations. This work requires men trained in veterinary pathology, meat inspection, and milk inspection. As state and assistant veterinarians there are many openings in enforcing quarantine laws and controlling contagious diseases of animals.

Experiment Station Veterinarians and College Instructors. Practically all state agricultural colleges and experiment stations employ from one to several veterinarians for carrying on educational and research work. The demand for adequately trained men has been greater than the supply. Salaries range from $1,500 to $3,500 a year.

Commercial Work. The advancement made the last few years in veterinary biological products, such as anti-hog-cholera serum, anti-blackleg serum and vaccine, etc., has created an immense field for veterinarians. Many pharmaceutical houses and biological laboratories are demanding competent men trained along these lines at salaries ranging from $1,500 to $5,000 a year.

Requirements for Admission

Persons to be admitted to the freshman class must be high-school graduates, or they must have fifteen units* of high-school work. A person

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*A unit is defined to be the work done in an accredited high school or academy in five recitation periods a week for one school year.

offering fourteen units will be admitted as freshman, but will be conditioned in one unit. Such deficiency must be made up the first year that the student is in attendance. If not made up within that time College credits are taken in its place.

Degrees

The Division of Veterinary Medicine offers a four-year course (nine months to the year), leading to the degree of doctor of veterinary medicine (D. V. M.).

The United States Department of Agriculture has placed this school in class A, being the highest attainable classification. Graduates are eligible to all state and federal examinations, and to membership in all state, sectional and national veterinary associations.

The College also offers a six-year course, being a combined animal husbandry and veterinary medicine course. At the end of four years the student is eligible to the degree of "bachelor of science in agriculture," and the degree of "doctor of veterinary medicine" at the end of two more years.

STUDENT ORGANIZATIONS

The Veterinary Medical Society was organized and is managed by the students of the Division of Veterinary Medicine. Regular meetings are held for the discussion of veterinary subjects. Besides the value of the discussions the student learns to address an audience and how to conduct a meeting. Graduates are presented with the Society Diploma at the annual veterinary banquet.

In addition to the Division Society there are eight literary societies in which the students may receive additional training. Through the efforts of these societies, inter-society and inter-collegiate debates and declamatory contests are held. Students of musical ability are encouraged to join the College Band, College Orchestra or the Men's Glee Club. Unlimited opportunities are open to those who desire to enter athletics.

EXPENSES

There is no charge for tuition. A matriculation or entrance fee of $10 for residents of Kansas, or $15 for nonresidents, is charged all students in College curricula or in the School of Agriculture. This fee is not charged summer school students. An incidental fee of $10 a semester or summer term for residents of Kansas, or $15 a semester or summer term for non-

residents is also charged. Each student in the College or School of Agriculture pays with his incidental fee a sick-benefit of $1.50 for each semester or summer term. The sick-benefit fee entitles a student to receive the service of the College physician for any illness contracted while in College. The fee does not include the cost of medicine, surgical operations, reduction of fractures, hospital fees, or the treatment of chronic conditions. As far as possible, and provided the students requesting such services are within the city limits, the College physician visits in their rooms students who are too ill to go to the physician's office.

For unexcused late registration the student is charged one dollar. On graduation students pay a commencement fee of $5 to cover the cost of the diploma and other commencement expenses. In all laboratories students are required to pay for supplies used and for apparatus broken or lost. Class instruction in music is free, but fees are charged for individual instruction.

Rooms are not furnished by the College. They are readily obtainable in the city at a cost of from $8 to $14 a month for a room suitable for two occupants. Less desirable quarters and less desirable locations may be obtained at a lower rate. There are great differences in the accommodations offered. Those for which the higher prices are charged are modern in all respects, and light, heat, and bath are included.

The cost of board depends largely upon individual requirements. In clubs and private boarding houses the cost is usually from $5 to $7 a week. Students may board themselves at a smaller money outlay. The College operates a first-class cafeteria, where all meals may be obtained, excepting on Sundays, at moderate prices. Food is furnished at cost and the expense to the student depends upon the care and judgment which he employs. By use of the cafeteria students may reduce the expense of board to $3.50 per week.

The expense for laundry may be estimated at from 40 to 75 cents a week depending upon individual requirements.

The average cost of textbooks is about $15 a semester in most of the curricula. For the first semester the cost is about $20, and there is considerable variation from term to term and in the different curricula.

APPLICATION FOR CATALOGUES

General information concerning the College or the annual catalogue of the College may be obtained from the President or the Registrar.

VETERINARY BUILDING (FRONT VIEW)

CURRICULUM IN VETERINARY MEDICINE

The arabic immediately folllowing the name of a subject indicates the number of credits, whilel the numerals in parenthese indicate the number of hours a week of recitation and of laboratory, respectively. 5(3-4, 2) indicates that two of the six laboratory hours each week may be used in completing required laboratory exercises outside of the regular laboratory periods.

FRESHMAN

FIRST SEMESTER
Anatomy I
Anat. 101..............6(3-9)
Histology I
Path. 101..............3(1-6)
Chemistry Vet. I
Chem. 105.............5(3-4, 2)
General Zoölogy Vet.
Zoöl. 111..............3(2-3)
Military Science I
Mil. Tr. 101...........1(0-3)
Phys. Ed. M-I
Phys. Ed. 103..... .....(0-2)

SECOND SEMESTER
Anatomy II
Anat. 106............7(3-12)
Histolgy II
Path. 106..............3(1-6)
Chemistry Vet. II
Chem. 106..............5(3-4,2)
Embryology Vet.
Zoöl. 1, 114............2(1-3)
Military Science II
Mil. Tr. 102...........1(0-3)
Phys. Ed. M-II
Phys. Ed. 104....... ..(0-2)

SOPHOMORE

FIRST SEMESTER
Anatomy III
Anat. 111...............5(1-12)
Comparative Physiology I
Phys. 121..............5(4-3)
Medical Botany
Bot. 113................2(1-3)
College Rhetoric I
Engl. 101..............3(3-0)
Mkt. Grades and Cl. of Livestk. Vet.
An. Husb. 102.........3(1-6)
Military Science III
Mil. Tr. 103............1(0-3)
Phys. Ed. M-III
Phys. Ed. 105...........(0-2)

SECOND SEMESTER
Anatomy IV
Anat. 116 ....3(1-6)
Comparative Physiology II
Phys. 126..............3(2-3)
Pathogenic Bacteriology I
Bact. 111..............4(2-6)
Materia Medica I
Med. 151...............2(2-0)
Principles of Feeding
An. Husb. 104.........3(3-0)
Genetics
An. Husb. 106.........3(3-0)
Military Science IV
Mil. Tr. 104............1(0-3)
Phys. Ed. M-IV
Phys. Ed. 106..........(0-2)

VETERINARY BUILDING (REAR VIEW)

JUNIOR

FIRST SEMESTER

Surgery I	Surg. 101	3(3-0)
Diagnosis	Med. 170	2(2-0)
Materia Medica II	Med. 156	2(2-0)
Pharmacy	Med. 166	1(0-3)
Pathology I	Path. 201	5(4-3)
Pathogenic Bacteriology	Bact. 116	4(2-6)
Clinics I	Surg. 136	3(0-9)

SECOND SEMESTER

Surgery II	Surg. 106	3(3-0)
Medicine I	Med. 173	4(4-0)
Horseshoeing	Surg. 126	1(1-0)
Therapeutics	Med. 161	3(3-0)
Pathology II	Path. 206	6(4-6)
Clinics II	Surg. 139	3(0-9)

SENIOR

FIRST SEMESTER

Surgery III	Surg. 111	3(3-0)
Medicine II	Med. 177	5(5-0)
Pathology III	Path. 211	3(2-3)
Meat Inspection	Path. 216	2(2-0)
Parasitology	Zoöl. 123	2(1-3)
Clinics III	Surg. 142	4(0-12)

SECOND SEMESTER

Surgery IV	Surg. 116	3(3-0)
Medicine III	Med. 180	5(5-0)
Ophthalmology	Med. 183	1(1-0)
Operative Surgery	Surg. 121	1(0-3)
Jurisprudence	Phys. 161	1(1-0)
Obstetrics	Surg. 131	3(3-0)
Dairy Inspection II	Dairy Husb. 118	1(0-3)
Clinics IV	Surg. 145	4(0-12)

SPECIAL COURSES

Students desiring to specialize in the manufacture of anti-hog cholera serum, biological products, such as Blackleg Vaccines, etc., and those interested in advanced methods of laboratory diagnosis or small animal practice are accommodated by special courses, in this institution, devoted to these subjects.

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GENERAL VIEW OF THE

VETERINARY MEDICINE

ANATOMY

Taught during the freshman and sophomore years. The knowledge of anatomy is a very important part of the education of the veterinarian. It is absolutely essential that one has a knowledge of anatomy before he is able to perform surgical operations intelligently. A knowledge of anatomy is also of much advantage in the judging of the horse for conformation and soundness. The work consists of dissection and lectures. The horse is studied in detail, and as often as necessary comparisons are made with other animals.

Unsoundnesses and defects are pointed out on the living animal and these are confirmed and discussed when the subject is dissected.

Abundance of material is always available and the student is encouraged to do any extra dissection that he may wish.

HISTOLOGY

The object of the course in histology is to teach the students the microscopical structure of all the normal tissues of the animal body. This gives the student a foundation to work upon in his study of pathology, which courses treat with the microscopical structure of diseased and abnormal body tissues and organs.

The courses in histology consist of lectures and laboratory work, the lectures covering the work done in the laboratory. In these courses the student obtains a thorough knowledge of the use of the microscope, the re Film Co.

structure of animal tissues, and some of the methods of preparing animal tissue so as to study them under the microscope.

ZOOLOGY

This work deals with the smaller forms of the animal kingdom, giving attention to their relations to each other, and to man. A comparative study of the systems of organs is taken up in a few selected types.

CHEMISTRY

The courses in chemistry are designed to give the student a knowledge of the theories of chemistry, the elements, inorganic compounds and organic compounds. Emphasis is laid upon substances which are used in medicine including a study of their physiological properties.

EMBRYOLOGY

This takes up a brief consideration of the origin of germ cells, fertilization, establishment of relations between the uterus and embryo, the development of membranes and the nutrition of the fetus in mammals.

PHYSICAL EDUCATION

The courses in Physical Education include both indoor and outdoor work. Nichols gymnasium is one of the largest and best equipped in this section of the country. In the regular class work, all indoor games, swimming, track work and most of the outdoor games are taught. In addition to the regular courses varsity and class teams are maintained in all major sports. Freshmen students are given particular attention in order that they

may be fully trained when eligible for the varsity teams. The Kansas "Aggies" have won three championships and tied for a fourth in the last four years.

MILITARY TRAINING

Since this college is one of the beneficiaries of an act of Congress, all male students are required, unless physically disqualified, to enroll in military training. For this work a uniform and necessary equipment, which remain the property of the United States and must be accounted for and turned in at the end of the college year, are furnished the student.

The Basic Course, for freshman and sophomores, consists of lectures and drills. Four hours a week for two college years are required. The Advanced Course, which is optional, consists of work in an infantry unit of the Reserve Officers' Training Corps which has been established at this college. In addition to the uniform the student receives commutation of subsistence at 40 cents a day, provided he agrees to finish the advanced course. Upon graduation students having completed the Advanced Course are eligible for appointment by the President of the United States as reserve officers of the Army.

COMPARATIVE PHYSIOLOGY

This subject is taught during the sophomore year.

The functions and uses of the organs of the body are thoroughly discussed during the lectures and these discussions are supplemented by work in the laboratory.

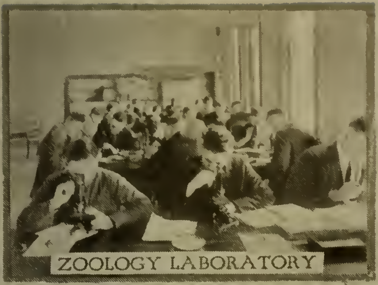
Besides the changes and variations that may take place normally in the body, changes due to the action of common drugs, used for the treatment of diseases, will also be demonstrated.

The Department of Physiology is well equipped with up-to-date approved apparatus.

MEDICAL BOTANY

"This is a lecture, laboratory, and reading course dealing with poisonous plants. The lecture includes a study of the principal stock-poisoning plants of the range; losses due to native poisonous plants, methods of identification, habitat, poisonous properties, and methods of control and elimination.

"Laboratory.—The laboratory work follows the work presented in the lectures, and consists chiefly of a study of the native poisonous plants of the west, the indentification of these plants by means of a descriptive key."



ZOOLOGY LABORATORY

MILK INSPECTION

ENGLISH

As an essential part of his professional training, the student is required to take a course in English. This course consists of a thorough review of the essentials of English and practice in theme writing. The aim of this work is to develop the student's ability to tell accurately and efficiently what he knows, and to encourage him to form correct habits of speech and of writing in all his professional work.

LIVESTOCK

Courses in"Market Grades and Classes of Livestock," "Principles of Feeding" and "Genetics" are given throughout the sophomore and junior years. No veterinary school can give such a thorough course in these highly important subjects as the Agricultural College. Here are available for classroom and laboratory instruction a large number of prize-winning dairy and beef cattle, horses, hogs, and sheep. All breeds are represented. Daily handling of these animals is of inestimable value to the future veterinarian. Nothing impresses an owner of livestock, meaning the veterinarian's clients, as favorably as an intelligent understanding of this highly important branch.

MATERIA MEDICA

A course devoted to the discussion of the materials used in the treatment of disease, with special reference to the origin of such agents, their physical properties and the official preparations derived from them. The poisonous properties of many drugs are taken up in detail, as well as the doses that may be administered for the cure of disease. Taught during the second semester, sophomore year, and the first semester, Junior year.

BACTERIOLOGY

The course in bacteriology continues for two semesters. The introductory course consists of lectures, demonstrations, recitations, and laboratory work covering the fundamental principles of the science, particularly as applied to veterinary medicine. Later in the course the student conducts a detailed study of pathogenic microörganisms, especially those related to infectious diseases of animals. In the laboratory the student studies the microscopical, cultural, and bio-chemical characteristics of microörgan-

isms, their action upon animals, their immunity reactions and the laboratory methods of diagnosis.

Considerable attention is given to serum therapy in its relation to infectious diseases of animals. Instruction is given in the manufacture, standardization, preparation for the market, and use of bacterial vaccines, antitoxins, and other biological products. A study is made of the constitution and mode of action of antibodies. The student is enabled to familiarize himself with the above by actually doing such work in the laboratory.

SURGERY

During the junior and senior years a thorough practical course in surgery is given. The various surgical conditions affecting domesticated animals are discussed so as to familiarize the student with all the details. This class room work is supplemented during the senior year by a course in surgical exercises, performed upon anæsthetized horses purchased for this purpose, and in addition many patients are brought to the hospital for surgical treatment.

MEDICINE

This subject is taught throughout the junior and senior years. The course commences with diagnosis, in which the student is familiarized with the principles of and the correct method of conducting a veterinary clinical diagnosis. The aids to such a diagnosis, such as diagnostic inoculations, animal inoculations, bateriological and physiological tests, are fully explained and demonstrated.

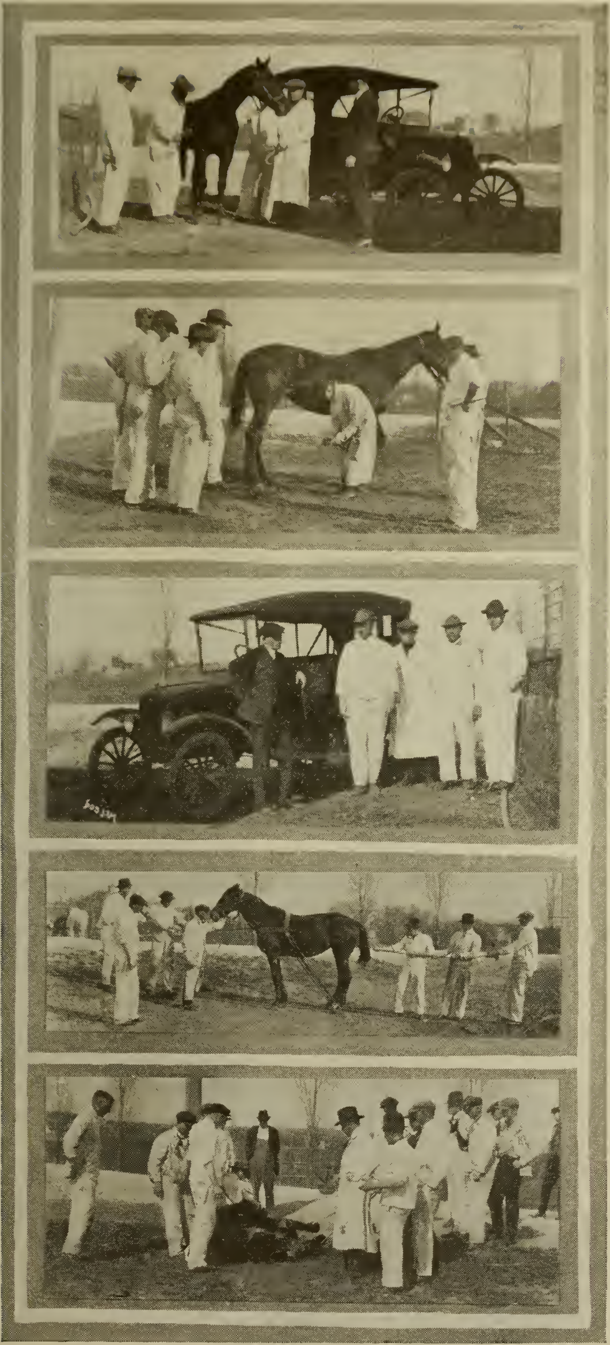
The course in diagnosis is followed by a discussion of the noninfectious diseases of domesticated animals. Each disease is taken up separately and thoroughly discussed. This course is greatly strengthened by the large number of medical cases presented at the veterinary hospital for treatment.

The course in medicine is finally completed by a consideration of the infectious and contagious diseases, their prevention, treatment, and sanitary measures for their eradication.

Taken as a whole, the course in medicine is broad and comprehensive and especially adapted to middle west conditions.

PHARMACY

The practicing veterinarian is called upon many times to prepare and compound his own drugs; in addition, it is highly essential that he be fami-



liar with general pharmaceutical procedures. The course in pharmacy fills this need, the student being instructed in class and laboratory regarding the various pharmaceutical processes. At the veterinary hospital all drugs used are prepared and compounded by students under the guidance of a pharmacist.

PATHOLOGY

In Pathology I, II & III, the students study the microscopical structure of diseased or abnormal animal tissues. The work is covered in lectures, recitations and in the laboratory. It is the endeavor to have the laboratory work coincide with the lectures in order that the diseased conditions can be studied in the laboratory while the lectures are still fresh in mind. The student is also instructed in the proper methods of collecting, preparing, sectioning and staining material for use under the microscope. He learns the best methods of making post mortem examinations and diagnoses, from a practical and a laboratory view point. Material from post mortem of animals and material sent in from over the state furnish a sufficient supply of diseased tissues for the student to study. Advanced courses are offered in pathological technique and laboratory diagnosis.

HORSESHOEING

Many lamenesses and irregularities in the horse's gait may be improved or corrected by a correct application of the principles underlying horseshoeing. The student has access to a large number of specimens owned by the department which assist greatly in classroom and laboratory work.

THERAPEUTICS

A continuation of the course in materia medica, but devoted to the action of drugs on the various parts of the body and their use in the treatment of diseases. The symptoms of poisoning by various agents and the treatment thereof are also described. The action of many drugs is shown on experimental animals. Second semester, junior year.

MEAT INSPECTION

The course in meat inspection is designed to prepare the student for national, state, or local sanitary work. He studies the traffic and transportation of animals, their inspection before death, their slaughter and their inspection after slaughter. The laws and regulations regarding disposal of condemned carcasses, preparations and methods for preservation and adulterations, along with a study of sanitary laws, regulations and all other matters properly concerned with the hygenic production of meat food, and its products, for human consumption.

PARASITOLOGY

Studies are made of the life histories and economic importance of external and internal parasites of vertebrates, particularly of the domestic animals. The more important parasites are studied and identified in the laboratory. Parasites new to this country are coming with live stock imported from foreign countries. Representatives of these parasites are shown in demonstrations and the effects upon the host animals considered. This course is given during the first semester, senior year.

OPHTHALMOLOGY

Diseases of the eyes are a frequent cause of loss to owners of livestock. This subject is of such importance that a separate course is devoted to it. The physical appearance of a normal eye and the deviation therefrom, the diseases, contagious and noncontagious, the injuries and defects are all discussed. The ophtalmoscope and other diagnostic agents are in frequent use at the veterinary clinic. The subject is taught throughout the second semester, senior year.

JURISPRUDENCE

The enforcement of sanitary laws and regulations, both state and federal, is left largely to the veterinarian; he is called upon to inspect livestock for interstate and foreign shipment, demanding familiarity with quarantine laws. His rights and privileges, and also those of his clients, methods of collecting accounts, etc., are all discussed. Taught during the second semester, senior year.

OBSTETRICS

This is that branch of surgery dealing with pregnancy, normal and abnormal parturition, diseases incidental to pregnancy, and diseases of the new-born. The classroom work is supplemented by a laboratory course in which obstetrical models and phantoms are employed. The surrounding extensive livestock territory contributes many cases for practical demonstrations under actual conditions. Taught during the second semester, senior year.

DAIRY INSPECTION

The veterinarian's field is a broad one; many cities are employing veterinarians as guardians of their milk supply. The course in dairy inspection comprises the testing of dairy products, the inspection and scoring of milk depots, and the testing for adulterations in dairy products.

CLINICS

A free clinic which affords an abundance of material is conducted. All species of domesticated animals are presented for treatment. These patients are assigned in regular order to the senior students for diagnosis and treatment; clinic sheets are provided, on which are recorded the history, symptoms, pulse, temperature, respiration, diagnosis, prognosis, treatment, and the unsoundness, defects or blemishes of the animal. The clinician in charge discusses all the abnormal conditions present in the patient, thus assisting the student to develop his power of observation. The junior students assist the senior students, and in addition are required to master, by practical experience, the restraint of animals, bandaging, etc. The compounding of prescriptions, the preparations of antiseptics and other medicinal agents is taken in charge by the junior students.

By these means the student becomes thoroughly practical and of immediate value to the community in which he locates.

An ambulatory clinic has recently been established. In this branch of clinical instruction students accompanied by an experienced instructor go into the country to visit and treat sick animals. By this method the student is confronted with, and is taught to overcome, the difficulties attending veterinary practice and at the same time gives him an extended practice in the diagnosis of animal diseases.

UNIVERSITY OF ILLINOIS-URBANA
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